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THE
Complete Engliſh Farmer:
OR,
Huſbandry made perfectly eaſy,
IN
ALL ITS USEFUL BRANCHES.

Containing what every Farmer ought to know and practiſe.

Among the various Articles treated of in this Work, are the following, viz.

- The Management and Qualities of the different Kinds of Graſs, and making Hay.
- Deſcription of the different Soils and of manuring and ploughing Land.
- The Cultivation and Management of Wheat and Barley.
- The Culture of Oats and Rye.
- Of the Farmer's Stock, &c.
- The beſt Methods of Breeding and rearing Colts, managing Horſes and Mares, and of curing their numerous Diſeaſes.
- The Art of rearing Calves and Lambs, together with the beſt Methods of managing Bulls, Oxen, Cows and Sheep, to make them turn out to the greateſt Advantage.
- Alſo ſeveral excellent Receipts to cure the different Diſorders they are ſubject to.
- The beſt and moſt approved Method of rearing Pigs, fattening Swine, and chuſing the beſt Sort for breeding, and for curing all their Diſorders.
- Of Breeding Rabbits to the beſt Advantage.
- The whole Art of rearing and managing Fowls, Ducks, Geeſe, Turkies and Pigeons, to make them turn out profitable to the Farmer, with choice Receipts to cure their ſeveral Diſtempers.
- The Management of Bees, both for Profit and Pleaſure.
- The Cultivation of Turnips, Beans, Peas, Tares, Flax, and Hemp, &c. &c. &c.
- And other uſeful Articles, too numerous to mention in a Title Page.

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INTRODUCTION.

NOTWITHSTANDING the great number of books which have been written on this ſubject, yet the multiplicity of improvements that are continually made, give ample room for a new publication. For though ſome of theſe improvements have been communicated to the public, yet they are of little uſe to huſbandmen in general; the manner of the ſtyle in which they are wrote being either too incomprehenſive for a common underſtanding, or the extenſiveneſs of the work too conſiderable for a moderate purchaſe.

The buſineſs of the field is ſo conſiderable, that new improvements in cultivation, if properly repreſented, cannot fail of producing more copious advantages to the induſtrious huſbandman.

We have, therefore, in this little treatiſe, avoided all ſuperfluous and confuſed repetitions, and have taken particular care to render the language ſmooth, clear, conciſe, and intelligible to every capacity. We have laid down the whole art of huſbandry under ſuch eaſy and diſtinct heads, that the farmer will have little more to do than proceed from the book to the field. In which field we doubt not but the utility of this little performance will be evidently repreſented.

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CHAP.

CHAP. I.

Containing the management and qualities of the different kinds of Graſs.

THE beſt ſeaſon for ſowing graſs-ſeed, is the latter end of Auguſt, and the beginning of September. If the weather ſhould be moiſt, or there is a proſpect of rain, it will be the better, becauſe the earth being at that ſeaſon warm, the moiſture will cauſe the ſeed to take root in a few days. But if this cannot be done in Autumn, the ſeeds may be ſown about the middle of March, if the weather is not very ſevere. The land on which you intend to ſow your graſs-ſeed ſhould be well ploughed and cleaned from the roots of all noxious weeds, ſuch as fern, ruſhes, heath, gorſe, broom, &c. The beſt method to deſtroy them effectually will be by ploughing up the ſurface in April, and let it lie ſome time to dry; then lay it in ſmall heaps, and burn it. The aſhes ſo produced, when ſpread on the land, will be a good manure for it.

Before the ſeed is put in the ground, the ſurface of it ſhould be made quite level, otherwiſe the ſeed will be unequally buried. The quantity of graſs-ſeed for an acre of land is uſually three buſhels; and when the ſeed is ſown, it muſt be gently harrowed in, and the ground rolled with a wooden roller, which will make the ſurface even, and prevent the ſeed being blown in patches. When the graſs comes up, if there ſhould be any bare ſpots where the ſeed has not grown, they may be ſown again, and the ground rolled, which will fix the ſeeds; and the firſt gentle ſhowers will bring up the graſs, and make it very thick. Where the land is very low, and of the ſtiff clayey nature, which holds water in winter, it will be of great ſervice to make ſome under-ground drains to carry off the water, which, if detained too long on the ground, will render the graſs ſour.

Of Clover Graſs.

Of this plant there are a great variety of ſpecies; but only three of them are cultivated in the open fields for the uſe of cattle, viz. the Red Dutch clover, the White Dutch clover, and the Hop clover. The firſt of theſe ſhould be ſown in Auguſt, when there is a proſpect of rain ſoon after; and if it be well rolled ſome time in October, when the ground is not too wet, it will preſs the earth cloſe to the roots, and cauſe the plants to ſend out more ſhoots. In the choice of the ſeed, that which is of a bright yellow colour, inclining to brown, ſhould be preferred; and the allowance for an acre of ground is ten pounds. It delights moſt in a rich warm ſoil, and ſuch lands as are moſt dunged, marled, or limed. About the middle of May it will be fit to cut, and the proper time is when it begins to flower; for if it ſtands much longer, the lower part of the ſtems, and the under leaves will begin to dry, whereby it will produce a leſs quantity of hay, and that not ſo well flavoured. The greateſt care muſt be taken in making it into hay; for it will require much more labour and time to dry than common graſs, and will ſhrink into leſs compaſs; but if it be not too rank, it will make extraordinary rich food for cattle. One acre of this will feed as many cattle as four or five of common graſs; but great care muſt be taken when they are firſt put into it, leſt it fill them with wind and kill them: to prevent which, the beſt way is only to turn them into it

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the firſt day about noon, when the dew is off, for about half an hour; the ſecond day for an hour, and the third day for two; and ſo on gradually till you let them ſtay all night. The beſt method when cattle are fed with this hay, is, to put it in racks, otherwiſe they will tread a great deal of it down with their feet.

The White Dutch clover grows naturally in moſt paſtures, and is generally known by the name of the White Honey-ſuckle. This plant ſends out roots from every joint, ſo that it thickens and makes the cloſeſt ſward of any of the ſown graſſes. It is the ſweeteſt ſeed for all ſorts of cattle yet known; therefore, when land is deſigned to be laid down for paſture, with intent to continue ſo, it ſhould be ſown with the ſeeds of this plant. The uſual allowance of this ſeed is eight pounds to one acre of land; the time of ſowing is Autumn, and if the ſeeds grow kindly, it will afford a good crop of hay the ſpring following.

The Hop-clover grows naturally among the graſs in the upland paſtures. It has upright branching ſtalks about a foot high, garniſhed with triofoliate leaves. The flowers, which are yellow, grow from the wings of the ſtalk, upon long foot ſtalks, collected into oval heads, having naked impalements laying over each other like ſcales, ſomewhat like the flowers of hops, from whence the plant had the name of Hop-clover. There are two ſorts of this clover; the other is a much ſmaller plant, and generally known by the name of Non-ſuch, or Yellow Hop-trefoil. This is both finer and ſweeter than the great clover-graſs.

Of Rey-Graſs.

This is a more hardy ſort of graſs, and will grow on any land; but it thrives beſt on ſour, clayey, and weeping grounds: it neither receives damage from the ſearching heats of the ſummer, nor the piercing froſts of the winter. It is the beſt of all winter foods for cattle, the ſhorter it is eaten the better, and it ſprings earlier than any other. There is no danger of over-ſtocking it, for if it be left to grow too much, the ſtalk will become hard and ſticky. It is beſt for horſes and ſheep, and very much prevents the rot in the latter. The beſt way of ſowing it is with clover; and the common quantity of ſeed is two buſhels to an acre; though in ſome lands where the clover is likely to ſucceed very well, they ſow eight pounds of clover ſeed and one buſhel of rey-ſeed to an acre, and this makes a crop that will laſt ſeven or eight years. Some mow it as hay, and thraſh it for the ſeed, which about London, will ſell from 2*s.* 6*d.* per buſhel to 3*s.* An acre of graſs will ſometimes produce four or five quarts of ſeeds. If at any time a field of this graſs is found to grow thin, it is only neceſſary to ſtrew on a buſhel of the ſeed, and roll it with a wooden roller, and the plants riſing from this addition will make the whole crop ſufficiently thick. Rey-graſs has this peculiar advantage, that it kills weeds without any other ſown plant; even thiſtles cannot grow among it. When the rey-graſs is cut for hay before perfectly ripe, the hay is the better; but the ſeed will not grow ſo well. When the ſeed is newly thraſhed, it muſt not be laid too thick, for it is very apt to heat and ferment, and will therefore be unavoidably ſpoiled.

Of Lucerne.

This plant may be ſown from the beginning of March to the end of May, but the beſt time, if the weather be dry, is in April. The uſual allowance for ſowing is about twelve or fourteen pounds to an acre. To make hay it ſhould be mowed as ſoon as the bloom appears, or rather ſooner: it muſt not be ſpread like common graſs, but lie in the ſwarth like clover, and turned in the ſame manner, or the leaves which are moſt autritive will drop off. The hay is good for all ſorts of cattle; and when horſes are fed with it they ſhould not have their full allowance of corn; the lucerne, in a great meaſure, anſwereth the purpoſe of both corn and hay. It is alſo the moſt profitable of any ſort of fodder to feed horſes with in the ſummer, by mowing and giving it to them green. If the land is good, the produce is incredible; and according to the goodneſs and depth of the ſoil, ſo will the crops be. One acre, if it takes well, is ſuppoſed to keep three horſes all the year. It purges in ſpring, and will make any cattle fat in a few days.

Of Saint Foin.

The beſt time for ſowing this plant is in Autumn, from the beginning of Auguſt to the end of September; if any other grain is mixed with it, then ſow it in the Spring, from the beginning of February till the end of March; the earlier it is ſown in either ſeaſon the better, and it will thrive by far the beſt if ſown by itſelf. It is eſteemed one of the beſt kinds of graſs, becauſe of its long continuance and bulk: in many lands it will laſt twenty or thirty years. If you reſerve it for mowing, it muſt be laid up by the latter end of March; and the time of cutting it is when it begins to flower, which is generally about the middle of May. It is an excellent hay for horſes, and the beſt food for great cattle, eſpecially in the Spring. It produces abundance of milk, and the butter that is made of it is exceeding good. It muſt be ſown in far greater quantities than the clover-ſeed, becauſe it is much larger and lighter. You need not be afraid of ſowing it too thick, becauſe it the ſooner ſtocks the ground, and deſtroys all the other graſs and weeds. It muſt not be fed the firſt year, eſpecially with great cattle, as the ſweetneſs of it will provoke the cattle to bite too near the ground, and large cattle treading on it is a great detriment, eſpecially in wet weather; therefore it is beſt mowing it the firſt and ſecond year, as after that it will be out of danger. The marling of Saint Foin, when it is almoſt worn out, makes a great improvement for three or four years, and after that the graſs which the marle produces will be near as good as the Saint Foin. If you ſow it with ſoot once in four or five years, it will increaſe prodigiouſly, and cauſe it to laſt a much longer time. It will thrive on the pooreſt and moſt barren land we have, except in ſheer and ſlight ſands; and, inſtead of impoveriſhing, it will conſiderably advance the land whereon it grows, which may be broke up and ſown with corn, till it be out of heart, after which it may be ſowed with Saint Foin again.

Eſpercat is a kind of Saint Foin, and by ſome people ſuppoſed to be the ſame.

Spurry-ſeed is uſually ſown in the low-countries twice in a ſummer, the firſt time in May, that it may flower in June and July; and in Auguſt the ſeed is uſually ripe. The ſecond time of ſowing it is after rye-harveſt, which grounds are uſually ploughed up and ſown with this ſeed, to ſupply the cattle in winter when other graſs is wanting.

Of making Hay.

The farmer may eaſily judge the proper time for mowing graſs by the quality of it. When the crop is very great, it ſhould be cut as ſoon as the bottom of the graſs grows yellow: for if it ſtands longer, more will be loſt by the quantity of leaves rotted at the bottom, and the ill flavour which theſe will give to the reſt, than will be gained by its growth. When other circumſtances permit the choice of time, it ſhould be when the graſs is in full bloom, before the ſtalks begin to harden, and rather early than late, becauſe the more ſap remains in the roots, the ſooner the next crop will ſpring up. A dewy or duſky morning ſhould be choſen for cutting the graſs, becauſe, being then fulleſt of ſap, it ſtands beſt to the ſcythe. When the high noon-tide ſun has dried the graſs, and made it recline its head, the mower will employ his time more uſefully in making the hay already cut, than in continuing to mow, with great additional labour, graſs which no longer makes the due reſiſtance. Let the hay-makers follow the mowers, and, if the weather be quite fine, ſpread out the graſs as faſt as it is cut down, eſpecially if it lie ſo thick in the ſwarth, that neither the air nor ſun can paſs freely through it; but if it is likely to rain, let it remain in the ſwarth. In the evening make it into graſs cocks, and the next day, as ſoon as the dew is off the ground, ſpread it again, and turn it, that it may wither on the other ſide; then handle it, and if you find it dry, make it up into large cocks. If the weather continues favourable during the ſecond day, the graſs will, by that time, be ſo dry as to bear being kept in theſe cocks till the day on which it is to be carted, when it ſhould be ſpread out again in the morning to receive a farther drying.

The cocks ſhould be made as tall and taper as poſſible, becauſe the winds, by paſſing through them, will dry the hay moderately and equally; and though wet ſhould fall upon them, it will not do much hurt, becauſe the greateſt part of it will run off directly, and the ſun and wind will ſoon dry that which may have penetrated into the cocks.

Theſe cocks have therefore a great advantage over the common, ſmall, and low ones; for if a rainy ſeaſon comes on, theſe laſt will be ſo thoroughly wetted, that the wind will not be able to pierce ſufficiently to dry them.

It is a very great prejudice to land to mow it too often, except it be land that is conſtantly mended with water-floods; and therefore where you have not that conveniency once in three years, or every other year, feed your mowing lands if you cannot get manure conſtantly to keep them in heart; for feeding is as neceſſary for hay ground, as fallowing is for corn ground.

CHAP. II.

Of the management and cultivation of WHEAT *and* BARLEY.

WHEAT requires more tillage than any other crop whatever; and with this there muſt be allowed a proper quantity of manure: the ground can never be too fine, but it may eaſily be too rich with dung. When the land has a great deal of ploughing, moderate enrichment, and the corn is ſown early, the produce is a large crop with ſhort ſtraw and a full ear, but on the contrary, a great deal of dung and late ſowing feed the ſtalk, but the ear does not come to ſo great perfection.

Notwithſtanding dung is the moſt common manure for wheat land, yet in moſt caſes it is the worſt of all; the virtue of it being irregularly conveyed to the ground, and it being always productive of weeds. Marle, where it can be had, is the beſt; the moſt excellent and the moſt laſting; as are likewiſe lime and chalk.

In order to prepare and break the land for wheat, five ploughings ſhould be allowed, and theſe ſhould always be done in dry weather: the depth of the ſoil will direct how deep to plough; for all the good mould ſhould be turned up, but none of the bottom. The method of ploughing in ſtitches ſucceeds better for wheat than any other; five ſtitches may come into a perch for ſowing, with a furrow a foot wide between every two. This method makes the ſoil very fine, and gives an opportunity of ſowing the ſeed more regular: It is of the nature of the drill huſbandry, and is much better for wheat than any other. Particular care muſt be taken to drop the ſeed even, after which a ſmall one horſe plough ſhould be drawn along each furrow: this throws up the corn that fell there, and the fineſt of the mould with it upon the ſtitches. There are many other methods of ſowing wheat, but this will ſucceed the beſt of any. If the ground has been well prepared with the former ploughings, and has received the due benefits of the air, it will now be rich and fit for ſervice.

The nature of the land ſhould be a principal conſideration in the choice of the wheat: the moſt profitable wheats require the ſtrongeſt ſoils; and where the land is of another kind, different ſeed muſt be uſed. If the land be firm, ſtrong, and naturally clayey, but well dreſſed by manure and tillage, it will bear the *Red Lammas Wheat*, which is the fineſt of all. It is called *Red*, becauſe of the colour of the ſtalk and ear, which have a reddiſh caſt: and even the ſkin of the grain has the ſame, though the flower be ſo perfectly white. Every part of this wheat is valuable; the ſtalk grows five feet high, and affords the moſt valuable ſtraw.

A piece of ground which is loomy, but rich, or one that has a blue clay at the bottom, but a good black mould at top, is the fitteſt for ſowing that ſort which the farmers call *Pirky Wheat*. This is little inferior to the *Red Lammas*, and ſometimes even excells it in the crop. It has a white ſtraw and white ear; but the ſkin of the kernel is red. This corn, having a very thin ſkin, yields a great deal of flour, and little bran.

The next ſort is called the *Yellow Lammas*: It thrives beſt in a gravelly or chalky ſoil, and will yield more than either of the former. It is known by the whiteneſs of the ſtraw, and redneſs of the ear. The ſkin of the grain is rather thick, but the flower is exceeding white, and there is a great deal of it in the grain.

The *White Wheat* ſhould be ſown on a ſoil of poor light lome, inclining to ſand. It has a white ſtraw, and a thick ear, which is rough when ripe, occaſioned by the ſeveral huſks which cover each grain. It is a hardy and ſtrong wheat in the growth, and is leſs ſubject to accident by blight and mildew than any other. The ſkin is a pale yellow, the grains are large, ſound and heavy, and produce a great deal of flour and little bran.

In low lands, where the ſoil will be more damp than what ſuits the generality of this grain, there is one that will anſwer: this is called the *Double-eared Wheat*; it requires a ſtiff ſoil to keep it upright, and more moiſture than the others. The ſtraw of this is white, the ear yellowiſh, but of a duſky caſt: it affords a great deal of good flour, but not equal to the foregoing.

When the farmer has choſen his ſeed, the next conſideration muſt be to prepare it for the ground by ſteeping; which is done as follows: diſſolve in water as much ſalt as will make an egg ſwim, then add ſo much more: ſtir this up, and then put into a common tub of it two pounds and a half of allum beat to powder; ſtir it up and put in the wheat; let it ſtand thirty-five hours, then draw off the liquor, and cover it with ſlaked lime ſifted, and it will be fit for ſowing. To ſteep more corn, add freſh ingredients, and ſo go on till all is done.

When the corn is in the ground, and a ſmall plough has been carried along all the furrows, they will be clean, and free for the diſcharge of water, and no farther attendance is required till the blade is come up; when, if it be neither too poor nor rank, all that need be done is rolling the ground. This ſhould be done with a light roller in damp ſoils, and with a heavier in dry.

If the crop be too rank, the right method is to mow it, becauſe the feet of the mowers will ſufficiently anſwer the purpoſe of the roller.

When the crop is poor, the beſt method is to put in ſheep to eat down the blade. The dung and urine of theſe creatures, with the perſpiration of their bodies, is ſo ſtrengthening to the crop, that it will ſpring up amazingly. If it ſhould want further refreſhment, give it a top-dreſſing of ſoot, pigeon's dung, hog's dung, or the like. The method of ſowing them is by the hand, ſprinkling them as corn is ſown; and the beſt time is on a calm day, and when it appears likely to rain.

Great care ſhould be taken to guard againſt the rooks juſt at the time when the wheat is ſhooting up. Theſe miſchievous birds perceive its ſprouting much ſooner than the farmer can, and are led by the ſhoot to pick it up. The farmer ſhould be no leſs attentive in keeping his land free from weeds. This may be done with a ſmall kind of hoe, which, if uſed among the wheat early in the Spring, before the ground is covered by the blades of corn, will effectually eradicate all the weeds, eſpecially if this work be done in dry weather; becauſe, being ſmall, they then ſoon wither and die. If the ground happens to be very full of weeds, it may be neceſſary to go over it a ſecond time, about a fortnight after the firſt, to cut up thoſe which may have been too ſmall to be noticed. By this means the corn will be kept clean, and there will not be time for new weeds to grow ſo as afterwards to do it any great prejudice: for the ground will be ſo much ſhaded by the corn, that the weeds will thereby be kept down, in ſuch manner as not to ripen their ſeeds before harveſt.

The time of cutting the corn ſhould be a little before it is ripe, becauſe, as it ſhould always be ſome time on the ground, it will continue ripening during that time. While the weeds fade, the ear fills: the new-cut ſtalk receives ſome nouriſhment, and the dews will get into the ear, and ſwell the grain. The hotter the ſeaſon is, the more danger there is in letting the corn ſtand to be too ripe on the ground. When it is fit for carrying in, the greateſt care muſt be taken to lay it ſecure from vermin. The beſt method, and what keeps it the moſt ſecure and ſweeteſt, is, to place it in large ſtacks out of doors. And the moſt effectual method of ſecuring it is by raiſing the ſtacks upon caped ſtones, for the capſtone being conſiderably broad, nothing can creep up the other and get over it. By this method corn will be ſafe from weather and vermin many years. After it is ſtacked it muſt be thatched; or, if that cannot be done, it muſt be ſecured by a moveable cover.

The next conſideration is the threſhing of the wheat: the beſt time for which is warm dry weather, or a clear froſt; becauſe at theſe times the grain will come out of the huſk much eaſier. Nothing now remains but the cleaning of the corn, and no pains ſhould be ſpared to do this effectually. The beginning of the cleaning ſhould always be by a long caſt, from one end of the barn to the other, and it ſhould be finiſhed by the fan.

Having gone through the whole progreſs of cultivating wheat, we ſhall now proceed to deſcribe the cultivation

Of BARLEY.

The moſt proper time for ſowing Barley is rather difficult to determine. The various kinds (of which we ſhall ſpeak hereafter) make a conſiderable difference; but in the common ſort there is the whole Spring for the choice. If the ſoil be dry, the ſeed ſhould be got into the ground early; but in a more moiſt ſoil it ſhould be ſown later. The latter end of January is the beſt for very dry and warm lands; the beginning of March, in general, is a better time for the other. April is not too late to ſow Barley after turnips with a proſpect of a good crop, and even in the beginning of May, if the turnips are not eaten off ſooner, a good crop may be raiſed, chuſing a right kind. In general, the end of February or the beginning of March may be eſteemed the beſt time.

Proper conſideration muſt be had with reſpect to the choice of the barley for ſeed. Though there are ſeveral kinds, yet there is one general rule which holds equally of all; it is that, whatever be the kind, it muſt be brought from a remote place, and from a ſoil different from that on which it is intended to be ſown. The common kind of Barley ſown with us is the long-eared kind, which is known by the name of Common Barley.

In the Northern counties they ſow a kind called, from the ſhape of the ear, Square Barley, and by ſome Bore and Big. This is a hardy kind, and ſucceeds in ſtiff lands, where the other fails. In ſome parts of England they alſo cultivate the Naked Barley, ſo called, becauſe there are no awns at the ear; and beſide theſe we have a very valuable kind, the Patney Barley, or Rath Ripe Barley, which is of excellent ſervice to thoſe who cannot get their land ready in time for the common kind; becauſe it may be ſown very late, and yet come to a good harveſt, requiring but ten or eleven weeks for its growth. To theſe may be added another kind, called the Sprat Barley, and by ſome the Battle-door Barley, which, in many places, will prove very advantageous. Whichever of theſe kinds the farmer finds his lands moſt fit to bear, he muſt chuſe the ſeed-corn clean, ſound, firm and heavy.

The Square Barley requires moſt time in the ground, and muſt be, therefore, ſown earlieſt of all. The Patney Barley needs not be got into the ground till April, and will even bear to be ſown as late as May. The beſt ſeaſon for ſowing Common Barley is the middle of March; the Battle-door kind may be a little earlier, and the Naked Barley ſhould be about the ſame time with the Common.

The farmer may be led, by the particular circumſtances of his land, to one or other of the three leſs common kinds; but in general the fine long-eared Barley is the ſort he ſhould cultivate, becauſe it anſwers excellently for all purpoſes; but if his land ſhould not be properly prepared for this, he may uſe the Patney kind.

The next conſideration is the ſteeping of the ſeed-corn, which muſt be done thus: Diſſolve in ſoft river water as much ſalt as will make an egg ſwim, and then add one third the weight more.

To a tub of this throw in a peck of ſtone lime, and ſtir it about till the lime is well ſlacked. Then put the ſeed corn into a larger veſſel of water; ſtir it about, and ſkim off all the light grains; put the good corn into the liquor, and let it ſtand twenty-four hours; then put in allum at the rate of about one ounce to every gallon of the liquor. This muſt be firſt diſſolved in water, and ſtand to be cold, and it muſt then be put to the reſt; after this the whole muſt ſtand twelve hours more, and then the liquor being drawn off by the tap, the corn muſt be ſpread upon the floor, and ſome ſlacked lime in powder ſifted over it, till the grains are well covered. This done, it will be ready for ſowing; and if the ground be likewiſe ready, the crop will be the greater. The time of ſteeping muſt be varied, according to the early or late ſeaſon. The Patney Barley, which is not ſown till the end of April, ſhould be ſteeped four hours more than the common; and if it be not ſown till May, it muſt lie in the ſteeping-tub two or three hours longer.

The beſt ſoil for Barley is a good rich lome, not too ſandy: It will grow very well upon gravelly land, where there is a good bottom of mould, and upon chalky ſoils, with proper dreſſing. Sandy ground haſtens up the Rath Ripe Barley, but it requires a great deal of manure. The method of ſowing Barley depends in a great meaſure on the nature of the land. When it is of a light kind, nothing is better than the ſowing by broad-caſt all over the ground, and ploughing it in; but this will not do in hard ſoils. When the land is a little firmer in its nature, but ſtill ſandy, the beſt way is to ſow the Barley after the plough, and then harrow it in.

We have already ſhewn the uſe of the Patney Barley: the common kind is fit for moderate ſoils well tilled, and for a middle ſeaſon of ſowing: the others have their particular uſes, which we ſhall here mention. When land is too heavy and too damp for theſe, the Square Barley is to be ſown early, and with moderate ſteeping. If the farmer have a ſtiff damp ſoil, which is difficultly got into a condition for this kind of crop, let him get it into as good order as he can by the beginning of February, and then ſow Sprat Barley upon it. The moiſture in ſuch a ſoil will feed a large ſtalk and good ear. Laſtly, if the field deſigned for Barley be clayey and ſtiff, yet by its ſituation is dry, the kind of Barley ſhould be the Naked, and this ſhould be ſown not later than the firſt week in March.

After the ſeed is ſown, it is eſſentially neceſſary to roll the ground. The looſe ſoil requires this moſt, and it always lays the mould cloſe to the roots, and at the ſame time prepares the ground for harveſt. And when the Barley has been up three weeks or a month, it will be proper to roll it over with a weighty roller, which will again preſs the earth cloſe to the roots of the corn, and thereby prevent the ſun and air from penetrating the ground, which will be of ſingular ſervice in dry ſeaſons; and this rolling of it before it ſtalks, will cauſe it to tiller out into a greater number of ſtalks; ſo that if the plants ſhould be thin, this will cauſe them to ſpread in ſuch manner as to fill the ground, and likewiſe ſtrengthen the ſtalks. Particular care muſt be taken to keep it clear of weeds.

If the corn grows too rank, as it is ſometimes apt to do in a wet ſpring, mowing is then much better than feeding it; becauſe the ſcythe takes off only the rank tops, but the ſheep feed upon all indifferently; nor ſhould they even in any caſe be left upon it too long, becauſe, being particularly fond of the ſweet end of the ſtalk next the root, they will bite ſo cloſe as to injure the future growth of the plant.

Barley is ripe when the red roan is gone off, when the ears droop and fall, as it were, double againſt the ſtraw, and the ſtalks have loſt their verdure. If it happen to be full of weeds, it muſt lie in the ſwarth till they are dry. It is not apt to ſhed; but in wet weather it will be inclined to ſpout or grow muſty; and therefore every fair day after rain it ſhould be ſhook up and turned; and when it is tolerably dry, let it be made up into cocks; but be careful never to houſe it till thoroughly dry, leſt it mow-burn, which will make it malt worſe than if it had ſpired in the field. The common produce of Barley is two or three quarters upon an acre.

CHAP. III.

Of the culture of OATS *and* RYE.

OATS will grow on almoſt any ſoil, but the richeſt will produce the greateſt profit. They will ſucceed extremely well upon a wheat or barley ſtubble, and the ground muſt be thus prepared for them. In November throw it up in broad land to have the benefit of the ſnow and froſts; and in January following give it a very good deep, and careful plowing. Where a very light ground is intended for Oats, one plowing will be enough: but when the loomy or heavier ſoils have two plowings for Oats, the crop is always the better, and the ground is left in a more advantageous condition.

There are five kind of Oats; the principal of which are the White Oat, which is the beſt of all; and the Black Oat. The other kinds are, the Grey and the Red Oat; and the Naked Oat, ſo called, becauſe there are no heads to the huſks. The White Oat is apt to grow rank in the ſtraw and blade; the Black much leſs ſo: therefore, where ground is very rank, the Black Oat is to be preferred. In the choice of the ſeed, the largeſt, heavieſt, and firmeſt is the beſt; and of whatever nature the land is, which is to be ſown with them, they ſhould, if poſſible, be obtained from one of a quite contrary quality. The Oat will grow on any, dry or moiſt, tough or light earth; but it will ſucceed beſt if brought from a light to a firm land, or from a moiſt to a dry. If the ſoil and management be right, the White Oats will yield better than the Black conſiderably.

The ſeed ſhould be ſlightly ſteeped, as it will be of great advantage to the crop: but no other ingredient ſhould be uſed than common ſalt. Twice as much ſalt ſhould be allowed to the water as is neceſſary to make an egg ſwim, and lime muſt be ſifted over them while very wet.

The White Oat ſhould be ſown about the latter end of February; the Black Oat a week or ten days ſooner. The former is fitteſt for low ground, and the latter for ſuch as is higher. The Black makes as ſweet meal as the White. The ſame ſort ſhould never be repeatedly ſown; but the ſeed exchanged from year to year, otherwiſe the kind will be loſt, for they always degenerate.

When the Oats are in the ground they will require no more care till the beginning of April, when it will be a great benefit to the crop to roll the field, eſpecially if it be of a light, looſe ſoil. This fixes the mould to their roots, and they grow after it with freſh vigour. It may be repeated after ſome time, but before the ſtalks riſe to be ſo hard as to ſuffer by breaking. Great care muſt be taken to keep the ground clear of weeds.

The proper time for cutting the Oat is, a little before it be fully ripe; for it will improve by lying on the ground. But if the White Oat be the kind, this caution of cutting them ſomewhat before full ripeneſs is yet the more eſſential; becauſe it is neceſſary upon all accounts, that this crop lie a little upon the ground, after cutting, and the White is apt to ſhed in lying, if it have been ripe before it was cut. In this caſe, however, a proper limitation muſt be conſidered; for if the crop be cut too green, the grain will not ſwell, but on the contrary it will ſhrink. The right time is about four or five days before the ſtate of ripeneſs. When they are ripe, the ſtraw turns yellow, the grain becomes hard, and the chaff begins to open and ſhew the ſeed.

If the farmer ſhould chuſe to raiſe Oats by the new method of drill and horſe-hoeing huſbandry, he muſt plant them in double rows, with ſix feet intervals: the ground muſt be deep plowed where the rows ſtand, and the bed on which the rows are raiſed, muſt be carried up as high as it will well ſtand above the level of the reſt of the ground. The diſtance of the two rows from each other ſhould be fifteen inches. As ſoon as the plants are above the ground, they ſhould be perfectly well hoed between the rows, which will entirely prevent the growing of weeds. After ten days more, the horſe-hoe ſhould be brought into the broad intervals, and they ſhould be thoroughly well broke: this will give a freſh growth to the young plants, but care muſt be taken not to come ſo near the beds as to injure them. After this the whole is to be left to nature, till the ſtalks are found, and have grown five or ſix inches above the ground, then there muſt be another horſe-hoeing, and in the ſame manner. The crop muſt then be managed exactly as thoſe raiſed in the common methods, and the Oats will be very fine.

The meal of Oats makes tolerable good bread, and is the common food of the country people in the North. In ſome places beer is made with the grain: but its principal uſe is for the food of horſes, for which purpoſe it is reckoned very wholeſome, being ſweet, and of an opening nature; but it muſt not be given them before it has ſweated in the mow, or barn, or been otherwiſe dried, leſt it ſhould prove too laxative, and hurt them.

Of RYE.

There are two ſorts of this grain, viz. the large rye, which is fitteſt for winter ſowing; and the ſmall rye for ſpring. The large, or winter rye is the ſtrongeſt and hardieſt, and is generally ſown on poor, dry, gravelly, or ſandy ſoils, where wheat will not thrive. When it is ſown the ground muſt be dry; for if much rain falls, even after it is ſown, before the rye is come up, it will rot in the earth. It will ripen much earlier on a light land than a cold ſtiff ground, and by continuing to ſow it in ſuch a ſoil for two or three years, it will be forwarded ſo much as to ripen a month earlier than that which has been raiſed upon ſtrong cold ground. For this reaſon thoſe who are obliged to ſow rye toward ſpring, generally provide themſelves with this early ſeed. A little ſprinkling of dung or mud, though it be but half the quantity commonly uſed for other corn land, will, if laid upon the rye ground, greatly advance the crop.

If a harveſt crop is expected, it is abſolutely neceſſary to ſteep the rye, the ingredients for which are only common ſalt and allum The ſalt to be put into the water till it makes an egg ſwim, and then half ſo much more to be added; and after twelve hours ſteeping, the a lum to be put in, an ounce to every gallon. When the whole has ſtood twelve hours longer, the liquor muſt be drawn off, and the ſeed ſpread on a floor, and covered thick with ſlaked lime, ſifted over it, after which it is immediately to be ſown. The uſual allowance is two buſhels of ſeed to an acre, or, if it be new broke up ground, or land ſubject to worms, about a peck more, and the produce of each acre will generally amount to about twenty buſhels.

The ſmall Rye may be ſown in the ſpring, about the ſame time as oats, and uſually ripens as ſoon as the other ſort; but if the ſeaſon prove wet, it is apt to run much to ſtraw, and the grain is generally lighter than the other. The principal uſe of this ſort is to re-ſow lands where the crop has failed that was ſown in Autumn.

When this corn is ripe its ſtraw turns yellow, its ear hangs, and the grain is hard. It is not very apt to ſhed, and therefore, if it be weedy, it ſhould be on the ground a week or ten days after it is wet (if the weeds do not dry ſooner) before it be bound up; for otherwiſe theſe weeds will give in the barn, make the Rye not threſh well, and render it muſty. But as this grain will grow in the ear ſooner than any other, if it be wet, particular care muſt be taken, eſpecially if rain comes on, to turn it at leaſt once in two or three days, and lay the ears upon the ſtubble, as high above the ground as poſſible. This will help to preſerve it from hurtful moiſture: but if it be cut in perfectly dry weather, and without weeds, it may be houſed as it is reaped.

Rye is generally uſed for bread, either alone, or mixed with wheat, in which ſtate it is called meſlin corn. It likewiſe yields a ſtrong ſpirit when diſtilled; and, if ſowed only for dreſſing of land, is of great ſervice to the ground where it is plowed in green and ſucculent. This plant is alſo ſown in Autumn to great advantage, purpoſely for green feed for cattle, particular for ewes and lambs in the ſpring, before there is plenty of graſs. When this is intended, the Rye ſhould be ſown early, that it may have ſtrength to furniſh early fodder. In this light, it will ſupply the want of turnips where they have failed, or where their ſeaſon is

over;

over; ſo that in ſuch caſes, it is very good huſbandry to ſow the land with Rye, eſpecially where there are ſtocks of ſheep, which cannot be well ſupported without green food early in the ſpring. The farmer who has many ſheep ſhould conſider, that turnips are always a very precarious crop; and therefore he ſhould, beſide ſowing ſome places with cole ſeed, in order to have green fodder, ſow Rye in others, to guard againſt accidents.

CHAP. IV.

Of the farmer's ſtock. Containing the method of breeding, rearing, and managing the Horſe; with a number of the moſt approved receipts for curing the various diſeaſes incident to that noble beaſt.

HAVING in the preceding chapters gone through the culture of the moſt material crops, we ſhall now proceed to another article, which no leſs requires the care and attention of the induſtrious huſbandman. This is his ſtock of cattle, part of which are neceſſary for his ſervice in the execution of his work, and part for breeding, for ſale, and for their products. Under this head of ſtock are comprehended the horſe and cow kinds, ſheep and hogs, poultry, &c. concerning which we ſhall begin with the horſe, as being one of the moſt noble and uſeful animals belonging to a farm.

Directions for chuſing a HORSE.

In chuſing of a horſe the farmer ſhould be careful that the body be of a proper proportion, not too ſmall or ſlender, nor too large; the back ſhould be ſtrait, or have only a moderate ſinking below the withers; for when a horſe has a low back, and is higher behind than before, it indicates weakneſs. His ribs ſhould be large, his flanks ſmooth and full, and his hind parts, or uppermoſt haunches, not riſing higher than his ſhoulders.

The next conſideration muſt be his wind, which may eaſily be known by the motion of his flanks. A horſe that is broken winded pinches in his flanks with a very ſlow motion, and drops them ſuddenly: but many horſes breathe thick that are not broken winded, which will happen in any horſe that is foggy and foul fed without ſufficient exerciſe. But if a horſe has been in good keeping, and had proper exerciſe, and yet theſe ſymptoms appear, it is a ſign that there is ſome defect either accidental or natural, ſuch as a narrow cheſt, or ſome cold that has cauſed his lungs to be contaminated.

The eye is another particular which ſhould be well conſidered, though in this the beſt judges are often deceived. The clearneſs of the eye is a ſure indication of its goodneſs; but this is not all that ſhould be attended to; the eye-lids, eye-brows, and all the parts belonging to it muſt alſo be conſidered; for many horſes, whoſe eyes appear clear and brilliant, will go blind at ſeven or eight years old. Be careful therefore to obſerve, whether the parts between the eye-lids and eye-brows are free from bunches, and the part round the under eye-lid be not full or ſwelled; for theſe are indications that the creature's eyes will not laſt. When the eye is remarkable flat or ſunk within its orbit, it is a bad ſign; or when it looks dead and lifeleſs. The iris, or circle, that ſurrounds the ſight of the eye, ſhould be diſtinct, and of a pale variegated cinnamon colour; for this is always a ſure ſign of a good eye. When the horſe is firſt led out of a dark ſtable into a ſtrong light, be ſure to obſerve whether he wrinkles his brow, and looks upwards to receive more light; for theſe are indications of his eyes being bad. But if you obſerve that the dimenſions of the pupil are large, and that they contract on his coming into a ſtrong light, it is almoſt an infallible ſign that the eye is good.

The ſhoulders ſhould be next conſidered in chuſing a horſe; they ſhould not be too much loaded; for a horſe with heavy ſhoulders can never move well; on the contrary, one that has very thin ſhoulders, with a narrow cheſt, though he may move briſkly while he keeps ſound, yet ſuch horſes are generally weak, and the moſt eaſily lamed in the ſhoulders of all others. A medium therefore ſhould be obſerved: for ſuch only are horſes for ſervice. Be careful to obſerve the creature's motions, that the ſhoulders, knees, and paſterns all act together in concert, and have but one ſpring of motion; for ſuch alone can be ſaid to move well.

The limbs ſhould be free from ſplents and windgalls; the knees ſtrait and not bending; the back ſinews ſtrong and well braced; the paſtern joints clean, and free from ſwelling; and the hocks lean and dry, free from curbs, ſpavins, and flatulent humours.

The feet ſhould be ſmooth and tough, of a middle ſize, without wrinkle, neither too hard and brittle, nor too tender. The heels ſhould be firm, and no ways ſpongy or rotten, the frogs horny and dry, and the ſoles ſomewhat hollow, like the inſide of a diſh or bowl.

Excluſive of theſe obſervations already enumerated, there are ſeveral other particulars neceſſary in chuſing a horſe. If his head be large and fleſhy, and his neck thick and groſs, he will always go heavy on the land, and therefore ſhould never be choſen. A horſe that has his hocks diſtant and and very wide, ſeldom moves well, but is apt to cut and chafe, by croſſing one leg over the other. Fleſhy legged horſes are generally ſubject to the greaſe, and other infirmities of that kind, and therefore ſhould not be choſen.

One very principal matter is the temper of the horſe; becauſe if that be good, it greatly augments its value; whereas the contrary expoſes him to many accidents. It is indeed difficult to diſcover the temper of a horſe without a proper trial, which ſhould always be obtained if poſſible. Fear is an impediment in a horſe's temper that greatly leſſens his value. A fearful horſe endangers both himſelf and his rider, and many ſuch are utterly ſpoiled and ruined by the accidents they are expoſed to from their timidity. A fearful horſe may be almoſt known at firſt ſight, by his crouching, creeping, and ſtarting.

A horſe that is very hot and fretful muſt likewiſe be avoided; but care ſhould be taken to diſtinguiſh between an hot fretful horſe, and one that is eager and craving; the former begins to fret the moment he is out of the ſtable, and continues in that humour till he has quite fatigued himſelf; but the latter endeavours only to be the firſt in the chaſe, or the foremoſt in the field, and is truly valuable: the former has thoſe qualities which reſemble intemperance and raſhneſs; the latter, prudence and courage.

Of the breeding and rearing of horſes.

If the farmer has a large quantity of paſture, either in common, or in woods or groves, it is no ſmall advantage to keep a team of mares for breed; but where there is moſt arable, and little paſture land, ſtone-horſes or geldings are more neceſſary, as may be obſerved in ſeveral counties of that ſort.

In Hertfordſhire great advantage is made by buying colts out of Leiceſterſhire, of between two and three years old, which, at about ſix years old, are ſold to gentlemen at London for their coaches. Theſe colts improve much in their ſtature, and their work pays for their keeping; which makes it a double advantage to them, and gives the former an opportunity of bringing them up to be fit for buſineſs.

If you deſign to have beautiful ſtrong colts, let your ſtallion and mare be ſo, eſpecially your mare; for the form and ſhape of the foal is generally more like the mare than the horſe, and more particularly for the head and neck, which is the beautiful part of the horſe. Let both the ſtallion and mare be of lively briſk natures; for heavy dull breeders will always produce lumpiſh heavy colts: and ſee that they be of healthy ſound conſtitutions; for your colts will, for the moſt part, have the ſame diſtempers with the ſtallions and mares: and if you deſire to have large colts, be ſure to have large-bellied mares, that the colts may have room to grow in, and give them good keeping, and then you need not fear their ſize, whatever may be the ſtature of the ſtallion.

Let your mares be as tame as poſſible: it is better to keep them to gentle, eaſy work, ſuch as plowing an hour or two in a day, &c. than to have them wild; for by being acquainted with their keeper, and being ſoberly handled, you may with eaſe remove them from one paſture to another, bring them to be covered, and to take their colts from them; whereas wild mares are not only troubleſome, but often deſtroy the colts in their bellies, by their leaping of ditches and hedges, &c.

The moſt certain method of having your mares breed, and the moſt profitable for the farmer, except he keeps his ſtallion to let out to hire, is to have a place well fenced, that is good land to keep your horſe in, and to let your mares go with your horſe during the months of April and May; but your horſe this way will not ſerve ſo many mares as if houſed, nor be ſo fit for conſtant working the other ten months of the year; and therefore if you work him hard, or let him out to horſe more mares than your own, you muſt take him into the ſtable, and feed him well; and if the horſe is kept in the ſtable, it is reckoned beſt to take the mare in too, for about a month or ſix weeks, and that ſhe be fed well with hay and oats; and that about five or ſix days before you bring her to the horſe, you bleed her on both ſides of the neck, taking out of each vein about a quart of blood.

In the breeding countries, in the ſtable where they keep ſtallions on purpoſe to let out to horſe mares, they have a ſquare hole with a door to it, big enough for the horſe to put his head and neck out at; to which hole they bring the mare for the horſe to ſmell on, by which means they can ſee whether the mare will ſtand to the horſe or not, without any danger of the mare ſtriking the horſe, or his doing of himſelf any injury. If they find the mare willing to ſtand, they have her out into ſome broad place, where they lead the ſtallion out to her; and if he be unlucky and mad, with two men to lead him, and let him horſe her: They reckon in the morning faſting, or in the evening, the beſt times of the day; eſpecially the morning, and that the horſe be well provendered and drink but little over night. When the ſtallion is diſmounted, they commonly throw a pail of cold water on the mare, which they think makes her take her horſing the better.

After the mare is covered, they that are very exact in taking care of them, keep them to the ſame diet as before, for three weeks or a month, and without work, and about September they take their mares into the houſe again, where they keep them till they foal; at which time they feed them with maſhes and other moiſt food till the graſs comes to be plentiful; which are niceties the farmer ſeldom troubles himſelf about. If after they have foaled they keep them a night or two in the ſtable, and give them the beſt hay, graſs and oats that they have, they think it ſufficient.

The beſt time for breeding is when the mares are from four to twelve years old, and much longer, if they have only been kept to breed on, and not worked; and the horſe from five to fourteen years old.

The mares ſhould be well kept about a fortnight before foaling, as it will not only make them have plenty of milk, but cauſe them quickly to take horſe again.

The moſt proper time for weaning of colts is at Candlemas or Shrovetide; and in this particular the farmer ſhould be very careful; for if the colts be not well weaned, well ſummered and wintered, eſpecially for the firſt three years, they will ſeldom prove either good or large.

When the colts are about two years old, it is the beſt time to take them up, and make them tame; and the year following back them that are to be for the ſaddle, only they muſt be uſed kindly at that age. The firſt year ſaddle colts ſhould only be walked, and the ſecond but ſeldom trotted, and that for a little way at a time. If they are any ways unruly and wild, at the firſt coming into the houſe, let them have no meat but what they take out of their keeper's hand, by which means you will make them gentle without violence; if that will not do, keep them waking, and want of ſleep will cure the wildeſt horſe that is. But to prevent his being ſo, uſe him from his foaling to be fed in winter at hand in the houſe; and for ſome time, when you back him firſt, never ride him but with a horſe before him, and always in the company of as many others as poſſible.

Draught horſes being thoſe principally uſed by farmers, we ſhall recommend to them the choice of ſuch as are ſtrong, well limbed, and as near as can be, ſuch as are of a height; for horſes in a draught unequally ſuited never draw eaſy: and if they are well worked, let them be well kept, and then you may expect buſineſs from them. A good team of horſes cannot well have leſs allowance than forty quarters of oats in a year, beſides good hay and graſs when they are out of the houſe. It will likewiſe be neceſſary that the farmer ſuit his horſes to his ground, as well as his other cattle; ſo that where his land is rich to have the larger, and where barren, the ſmaller ſort of horſes, except he has ſtone horſes, and keep them always at hay and oats.

Of the diſeaſes of horſes, with their reſpective cures.

The farmer ſhould be particularly attentive to the firſt ſign of a diſorder in his horſes, for their diſeaſes are eaſily remedied when ſeen in time. If any of them ſeem more ſluggiſh than ordinary, it is a ſign of ſome growing indiſpoſition; in which caſe he muſt give him a meſs of warm grains, with a little ſalt, once in a week, and let him have twice the rubbing of the others. If this does not recover him, let him be blooded, and abate ſomewhat of his labour for a few days, but do not keep him altogether idle. This ſhort courſe, if uſed in time, will prevent half the diſorders of this creature; but if it has been omitted, and a diſeaſe ſhews itſelf, the remedy muſt be adapted to the ſymptoms and appearances, as well as to the cauſe of the diſorders. When horſes are inclined to fall into diſorders, bleeding every ſpring and fall is a very proper method. If this does not anſwer, purging is the next expedient; and theſe together will often prevent or carry off the cauſes of diſorders.

Of purging a horſe.

The day before a horſe is purged, he muſt be kept from labour, and have a good quantity of warm ſcalded bran with the water; then the next morning before he has any thing to eat, give him the folloing doſe:

Take powder of cream of tartar, and powder of jalap, three quarters of an ounce; of aloes, a quarter of an ounce, and of powder of ginger two ſcruples; mix theſe up with butter into a meſs, and break it into two balls; greaſe theſe with more butter on the outſide, and give them to the horſe, with a quart of warm weak ale.

This is the proper quantity for a ſtrong horſe; the proportion muſt be obſerved in all caſes, but for thoſe which are of a weaker habit, leſs will do. When the horſe has taken the doſe, he muſt be rid about for a quarter of an hour, a little more than a foot-pace, and after that ſet up an hour and half before he has any thing to eat; then he ſhould have a little good hay, and after this ſome water, milk warm. An hour after, give him a meſs of ſcalded bran, and ſoon after this ride him out again. This will ſet it very properly to working; after which give him at times more bran ſcalded, and ride him out a little. The more bran he takes, and the more exerciſe he has, the better the phyſick will work; and he ſhould be thus managed till it has done as much as is judged neceſſary; for the ſame doſe may, by theſe means, be made to operate more or leſs as occaſion may require. The aloes ſhould be of the beſt kind; there is a courſe ſort called horſe aloes, but the difference in price, in a few doſes, is very trifling, and the other is too coarſe.

Bleeding and purging, in the proper manner, will prevent half the diſeaſes of horſes; but we ſhall not leave the farmer at a loſs in ſuch other of their diſeaſes as he may cure without the farrier; the principal of which are as follow:

Of ſtrains.

Theſe are very common among horſes that are worked hard, and if not taken care of in time, they bring on fixed complaints. When a ſtrain is perceived early, the remedy is this:

Melt an ounce of alum in a quart of verjuice, and rub the place with this as hot as the hand can bear it. Repeat it two or three times, and it will effect a cure.

If the complaint has been long ſtanding, the following is to be uſed:

Slice three ounces of Caſtile ſoap very thin, and put it into a pint of ſpirits of wine; let it ſtand in a warm place till it is diſſolved, and then put in an ounce of camphire. When this is likewiſe diſſolved, it will be fit for uſe. Warm a little of it, and rub the place affected every morning and evening.

Of the malanders.

This is a ſcabby diſorder, attacking the back part of the fore-legs, againſt the joint of the knee. The ſcabs grow hard like warts, and have ſtiff hairs upon them. Careleſſneſs in not cleaning the horſe is the general cauſe; and the following management will help the cure:

Clip off the hair from the place, and waſh it very clean with ſoap-ſuds and a ſponge. Boil a pound of fenægreek ſeed, and two pounds of marſh-mallow root cut ſmall, in a gallon and half of water, till the liquor is thick like a jelly, and the ingredients are ſoft; then waſh the part night and morning with the liquor warm, with flannels dipped in it; and afterwards tie on a parcel of the ingredients wet with the liquor, leaving them on till the next dreſſing. Let this be continued till the cure is perfected; and during the operation the horſe may be kept to his uſual work.

If the cure proves tedious, the blood is bad; and in that caſe, during the time, there muſt be ſome flour of brimſtone ſprinkled all over his food.

Of ſore heels.

Theſe are very troubleſome to the farmer's horſes; but he may cure them thus:

Put into a quart of white wine a quarter of a pound of green copperas, and one ounce of Roman vitriol. Add the gall of an ox, after the ſalts are melted, and a quarter of an ounce of oil of vitriol. Rub the horſe's heels with this every night and morning, and keep him clean at all times. The ſores will ſoon be healed, and cleanlineſs for the future will prevent their return.

Of cracks about the feet.

Theſe are of much the ſame nature with the former, but more obſtinate. They are generally cured thus:

Boil fenægreek ſeed and marſh-mallow root in water, till it is as thick as a jelly, then waſh and ſoak the cracks with the liquor warm, and tie ſome of the ingredients that have been boiled ſoft round the whole part.

After the cracks have been thus dreſſed four or five times, they will grow ſoft at the edges, and the following ointment will then take effect:

Melt over the fire half a pound of yellow baſilicon, and ſtir in half an ounce of powdered verdigreaſe; mix it well, and then let it cool: ſpread this thick upon ſome leather, and after the part is well waſhed and cleanſed, put it on. Renew this every day till the cure is effected.

Of Swelled Heels.

This is a common complaint of horſes of the coarſer kind, when they are hard worked and ill rubbed down; to remedy which the following powder muſt be added to their food:

Take powder of antimony, flour of brimſtone, and powder of turmerick, of each equal quantities; mix up a large parcel of this, and ſprinkle it among the meat that is given them. Continue this, only leſſening the quantity, till the cure is perfected.

Of the Farcey.

This diſeaſe will ſpread all over the horſe, if not checked in time. It is firſt ſeen in hard lumps upon different parts of the body, which ſoon afterwards break and run. The cauſe is over labour, or a ſurfeit of good food, after the horſe has been half ſtarved. When the lumps are found before any of them are broke, the remedy is this:

Bleed the horſe twice at three days diſtance. Boil a pound of quickſilver half an hour, in a gallon of water: then pour it off, the quickſilver will be never the worſe, but the water will be ſtrong of its virtues. Put to this water ſix ounces of ſoap lees, and one ounce of verdigreaſe: then add a pound of roll brimſtone powdered, and a quarter of a pound of white hellebore in powder: ſhake it all up together, and rub the places where there are lumps. If any of them break out in ſores, notwithſtanding, mix four ounces of allum, and then uſe it as before. The horſe muſt be kept clean, and rubbed with this every night and morning; and all the time a little powder of antimony and flower of brimſtone, mixed together, muſt be duſted over the food. If one or two ſores remain after the reſt are well, theſe muſt be burnt with the point of a red-hot poker, and afterwards dreſſed with the ſame mixture. In a few days a black ſlough will come off, and they will be well ſoon.

Of bloody Urine.

This is a dangerous accident among horſes, and is generally occaſioned by overſtraining them at their work. To cure it uſe the following medicine:

Bruiſe in a mortar half a pound of the herb Robert Craneſbill; diſſolve in the juice preſſed out of this a dram of alum, and two drams of dragons blood, and five grains of ſugar of lead; give this for a drench, and repeat it once in ſix hours till the horſe is cured.

Of the Staggers.

This diſorder ſhews itſelf by the horſe tottering as he goes, ſtaggering, and moving his limbs weakly and faintly. When he is put up, he toſſes his head about till his eyes ſwell and run, and at laſt he beats his head about againſt every thing that is near him. It is generally brought on by violent cold when the horſe is over heated; ſuch as riding hard, and then going into water, putting him up without riding after it, or turning him hot from hard labour into cold graſs.

When the diſeaſe is diſcovered the horſe muſt be blooded largely. If this does not take effect, he muſt have a ſtrong clyſter made in the following manner:

Mix together three pints of hot emetic wine, and a quarter of a pound of ointment of elder: and the heat of the wine will melt the ointment into an oil, and the horſe is to be thrown up when it is a little cooled.

Two hours after the clyſter is come away, give another made of the ſcoriæ of liver of antimony. Boil two ounces of this in two quarts of ale for ſix or eight minutes; then take it off the fire, put in a quarter of a pint of ſallad oil, and mix it all together. It muſt be thrown up in the ſame way as the firſt: and after this, the horſe ſhould be led out and walked a little. When he is taken in, give him ſome ſcalded bran with a little water warm. If he be not recovered by this, one hour afterwards give him a doſe of Venice treacle; an ounce is the proper quantity, and it is beſt to give it in a pint of very good ſtrong beer. Wine is commonly recommended, but the horſes are generally ſick and uneaſy after it, when given this way, and not when given with the ale. All the time rub his legs frequently and hard, with whiſps of dry ſtraw, and from time to time let him be walked out. This generally compleats a cure, but if the diſeaſe had got too much head before they were applied, and he does not recover by them, he muſt be blooded in the noſtrils. Cut a thin piece of an oak twig, ſharpen it to a point, then ſplit it, and thruſt this up firſt one noſtril and then the other. This will make him bleed freely enough, and will do great ſervice. If he ſtill knocks his head about, the following paſte muſt be put into his ears.

Pound ſome bears foot root, penny royal, rue, and angelica; mix theſe up with a ſpoonful of pepper, and a little ſpirit of wine; fill both the ears with this, and ſew them up to keep it in, only leaving a hole, by which to pour in a little freſh ſpirits of wine from time to time, to moiſten the ingredients. With theſe aſſiſtances, there is little doubt of his getting well; and the following clyſter will aſſiſt in it:

Boil a double handful of mallow roots in two quarts of water, for a quarter of an hour; ſtrain it off and add two ounces of polycreſtum ſalt, and an ounce and half of Venice treacle, and half a pint of ſallad oil. Give this warm as a clyſter the ſame way as the others; after this, though the horſe ſeem well, the clyſter with antimony muſt be given every other day twice more, and care muſt be taken that he gets no cold for ſeveral days after.

Of the Vives.

This diſorder ſhews itſelf by a ſwelling of the kernels of the neck, which is often ſo inflamed as to be dangerous.

The horſe muſt be blooded largely; then bruiſe half a pound of rue, and a quarter of a pound of yellow ſtone crop; put a little ale to it, and then preſs out the juice: add to this half a ſpoonful of pepper, and put it into the ears, ſewing them up, to keep it from running out directly. If he is not well by the next day, let it be again repeated.

Of the Cholick.

When a horſe has this pain violently it is as dangerous as the ſtaggers, and care muſt be taken of the firſt approaches of the diſorder; for when it comes to that degree which the farriers call convulſions of the bowels, and which is much the ſame with what we call a twiſting of the guts, the caſe is nearly deſperate.

In the firſt approaches of the cholick, the horſe's belly may be perceived to be ſwelled, he looks uneaſy, lies down, rolls himſelf about, and gets up again; and his mouth is hot, and his eyes look red. After it is come to the more deſperate ſtate, he ſtamps furiouſly upon the ground, rubs his ſides hard againſt the wall, ſtretches out his legs and neck, and gives all poſſible ſigns of the greateſt uneaſineſs.

This diſorder is generally occaſioned by the creature's eating too greedily of coarſe green food; and ſometimes by ſudden cold when he is hot; ſometimes alſo by the eating unwholeſome herbs, as theſe creatures will do when they come into freſh paſtures, though they would not touch the ſame plants in thoſe grounds where they have been uſed to feed. Very often the following medicine will produce a cure:

Scald ſome bran, and put to it a tea-ſpoonful of oil of anniſeed, ſtir it together, and give it warm. If this does not anſwer, diſſolve a quarter of an ounce of philonium romanum in a pint of peppermint water, and give this for a drench. In caſe this fails, recourſe muſt be had to clyſters.

Boil two handfuls of mallow leaves, and a quarter of a pound of cummin ſeed in three quarts of water, for a quarter of an hour; put to this a quarter of a pound of ſugar, then ſtrain it off, and add a quarter of a pint of ſallad oil, and two ſpoonfuls of oil of turpentine. This muſt be given warm, and the horſe muſt be walked gently after it. After which give him clean hay, warm water, and bran; and if he does not grow well directly upon this, repeat the doſe of philonium romanum once in eight hours, and put oil of anniſeed in all his bran.

When the caſe is come to the worſt before care is taken, or if the worſt ſymptoms come on in ſpite of theſe remedies, the horſe muſt be blooded. Then inſtead of the philonium and pepper-mint water, give it to him thus:

Diſſolve a dram and half of the philonium in a pint of mountain wine; add to it a quarter of a pint of ſallad oil, and a full tea-ſpoonful of ſpirit of ſal armonica; give this as a drench, and ride the horſe gently half an hour after he has taken it. If this does not ſucceed, mix a grated nutmeg and a quarter of an ounce of jalap, in a quarter of a pint of gin; add half a quartern of ſweet oil, and give it him as a drench. One or other of theſe muſt be given once in three hours, and repeat the clyſter as often as he ſeems violently in pain. He muſt be rid ſoftly about at times; and by this means the fit, if it be ever ſo bad, will be carried off. But care muſt be taken that it does not return; and this will be chiefly prevented, by giving him only very good dry food, ſcalded bran, warm water, and ſometimes a little anniſeed mixed with the bran.

Of Colds.

As ſoon as this diſorder is perceived, the farmer ſhould give the horſe the following medicine:

Bruiſe three ounces of freſh liquorice root, and boil it well in three pints of new wort, or elſe of very mild ale. Strain off the liquor, and put to it a quarter of a pound of honey, and two ounces of ſallad oil; give this as a drench warm early in the morning, and repeat the ſame every morning till the complaint is thoroughly removed.

This will at any time cure a cold, that is freſh caught. But where the diſorder is longer ſtanding, the following balls are the beſt remedy:

Weigh ſix pounds of bean meal, and mix it with half a pound of powder of liquorice, a quarter of a pound of flour of brimſtone, three ounces of lintſeed powder'd, two ounces of anniſeed, and common ſeed and fenægreek, of each an ounce and half; bay and juniper berries, of each two ounces; and flour of benjamin half an ounce. Mix all theſe powders very well, by rubbing them together in a large marble mortar; then beat up the yolks of ten eggs, with two bottles of mountain wine; ſtir into this two pounds of thin honey, and a pint of ſallad oil. When this is perfectly mixed, pour it all into the mortar, and beat it up with the powders into a ſtiff paſte, that will eaſily roll into balls. If it be too moiſt, add a little flower to ſtiffen it; and if too hard, a little wine. When it is fit to roll, make it up into balls of the bigneſs of a large waſh-ball, rolling them up in the hands very even and round; then lay them upon a dry ſieve turned bottom upwards, in a cool airy room, to harden and dry. They will thus keep a year or two, and be always ready and convenient, one ball being the proper doſe.

The farmer ſhould never be without theſe in his houſe, for horſes are very ſubject to theſe diſorders. When they are to be given, the ball muſt be melted in a ſufficient quantity of warm water, and adminiſtered morning and evening for a fortnight or three weeks together, within which time there is little doubt but the cure will be accompliſhed.

Of Surfeits.

Theſe are often brought upon horſes by overworking and neglect, in which caſe the ſtomach will be ſo diſordered that he cannot eat his food. He will look tired, weak, and diſpirited, and will pine himſelf to death, if not relieved in time. The ſooner care is taken the better, and the medicine muſt be of the cordial and refreſhing kind.

Pour a quart of boiling water upon half an ounce of ſalop: when this is grown to a jelly, add to it half an ounce of Venice treacle, and give it him warm in the evening. The next morning diſſolve half an ounce of mithridate in half a pint of good mountain wine, and give him that as a drench.

After he has had this, walk him out a little, and when he comes in, rub him well with dry ſtraw, and then offer him ſome very fine hay. He will eat a little, and it will do him good: during the reſt of the day give him at times a little hay in the ſame manner, and at night repeat the mithridate and wine. This muſt be done for four days; and all the time he muſt have good food, a little exerciſe, and frequent rubbing. This will abſolutely recover him, and in a day or two more he will be fit to work.

Of Lethargies.

This diſorder is very common among horſes, and is what farmers call the ſleeping diſeaſe, or ſleepy evil. Bad food is the common cauſe, and ſometimes too much reſt, when the creature has been uſed to laborious ſervice. He will grow ſluggiſh, heavy, and ſleepy, and when waked by the whip, he will preſently fall into the ſame droning way again; at length he will neglect his food, and ſoon be loſt. The remedy for this is thus:

Bruiſe in a marble mortar a good handful of yellow ſtonecrop, called wall-pepper; put to it a gill of white wine, and when well worked together, preſs out the juice. Set this by to be ready, rub together a quarter a quarter of a pound of elecampane and a dram of pellitory of Spain, both in powder. Slice very thin a quarter of a pound of Caſtile ſoap, and put it to theſe powders; work theſe well together, and then put in the juice: when all is very well mixed, put in as much liquorice powder as will bring the whole to the conſiſtence of a paſte. Put this up in a ſtone jar, and keep it cloſe preſſed down. The doſe is a piece as big as a walnut: this muſt be greaſed over, and given him every night and morning till the ſtrength of the diſorder is overcome; and to prevent a return, repeat it every morning after.

Of a Feveriſh Heat.

This diſorder will wear a horſe down of itſelf, and very frequently it will bring on other diſorders. When the horſe is firſt ſeized with this, he appears weak, and is reſtleſs; changing poſture continually, lying on the ground, ſtretching himſelf, getting up again ſlowly, and then rolling about again. On putting your hand to his mouth, his breath is found hot, and his tongue and jaws are red and inflamed. This is a ſtage of the diſeaſe in which it is eaſily perceived and eaſily cured. To effect the latter, make up the following compoſition:

Beat to powder twenty-five grains of ſalt-petre, and diſſolve it in a gill of ſoft water; add to this two ounces of thin honey, and three ounces of ſallad oil; then put to the whole half a pint of new milk, and ſhaking it all up together, give it in the morning, keeping him an hour after it without any food. After this let him be worked a little, brought in cool, well rubbed, and fed with freſh vetches, or any other of the ſmall pulſe, new cut. Let this be practiſed three days, and it will generally perfect a cure.

Of the Anticor.

This is a diſeaſe that affects the beaſt. The horſe is uneaſy, and breathes hard; his neck grows ſtiff, he walks bad, ſhakes at times, and has little ſtomach to his meat. The cauſe of this is eating too plentifully of ſome rich freſh food. Horſes, that are turned into clover without due care, very often fall into this. The remedy is eaſy if the diſorder be taken in time, becauſe nothing more is required than to cool and open the body. Let the horſe be blooded immediately, and the next day give the following purge:

Mix together an ounce of powder of aloés, half an ounce of cream of tartar, and a quarter of an ounce of powder of anniſeeds. Work them up with ſome freſh butter into a ſoft paſte, make it into a ball, greaſe the outſide of this, and give it in the morning with a pint of warm ale after it.

If he grows better upon this, nothing need be done but to repeat the purge for twice more in the morning. If his tremblings grow worſe, and he falters in his gait, and grows ſtiff about the breaſt, the bleeding muſt be repeated; and if twice does not anſwer the purpoſe, he may be blooded as far as four times. There is no way to conquer this diſeaſe but by bleeding and purging; and however the creature may be weakened by them, he will get the better of the diſorder.

Of the Gargle.

This is an inflammation of the head and throat, to which common and hard kept horſes are very ſubject towards the fall of the leaf. The diſeaſe is diſcovered by the horſe being reſtleſs and hot, his head ſwells, and he rattles in the throat; his eyes ſwell, and he rolls about the ground, rubbing his head and neck againſt it, and againſt the walls or trees. This diſeaſe is catching; therefore the horſe that has it muſt be immediately ſeparated from all the others; and for fear of any infection before this was diſcovered, it will be neceſſary to bleed all the horſes you have.

This diſeaſe generally ariſes from unwholeſome food and bad water; and it is moſt commonly after drought in ſummer when the ponds are almoſt dry. The firſt ſtep to be taken in order to cure the horſe muſt be bleeding; and as ſoon as that is done, he muſt be put up in a dry warm ſtable, and the following drench prepared for him:

Diſſolve half an ounce of mithridate in two quarts of ale; then add one dram of powder of ſaffron, and four ſpoonfuls of the juice of garlick; divide this into two parts, and give one at night, and the other in the morning. He muſt not have any food for four hours before, nor for one hour after theſe doſes; and they muſt be repeated every morning and evening for two days; and after this each morning only for two more. During this time his diet muſt be well regulated; he muſt have boiled oats and malt ground given him in a maſh warm; and he muſt be frequently and carefully rubbed. This ſingle medicine, with theſe regulations, will generally perform a cure; and all the care afterwards is to keep him from coarſe food and bad water.

Of a Ravenous Appetite.

This is a complaint not uncommon among horſes, and the farmer ſhould look to it upon a double account; becauſe they eat too much, and becauſe it does them little good. Horſes that have this diſorder ſwallow their food without chewing; they ſnatch their provender; and what they eat is ſeen in their dung undigeſted. They grow weak, and will in a little time be ſpoiled, if care be not taken to remedy this evil.

Mix together a gallon of milk and three pints of oil; and ſtir in by degrees ſome rye flour, till it is as thick as can well be ſwallowed. Give a large drench of this every morning, and always half an hour after, give him by hand a little ſweet hay: then ſet him up without any thing more, and let him be kept quiet. After this let him be taken to his uſual labour, but worked only moderately; and, when he has been out three hours, bring him cool in, and give him ſome more new and fine hay: but let it be only a ſmall quantity, and give even this ſlowly. After this work him again for ſome hours, and then feed him in the ſame manner, by a little at a time; but give ſo much now, that he can eat no more: after this, ſet a large quantity before him, and he will not touch it. Thus the diſeaſe will be conquered, and a little care and attention will prevent the return of it.

Of the Yellows.

This diſeaſe in a horſe is much the ſame with the jaundice in the human ſpecies, and may be known by the ſame ſigns, and cured by the ſame medicines. Bad food is generally the cauſe of it, and ſometimes immoderate labour. The eyes and ſkin withinſide the lips look yellow, he grows faint, loaths his food, and declines, ſweats profuſely, and will fall down as he goes or ſtands with real weakneſs. As ſoon as the diſorder is perceived, give him the following drench:

Beat together in a marble mortar half a pound of great celandine freſh gathered, a quarter of a pound of young nettles, and the ſame quantity of wormwood; preſs out the juice, and add to it a quarter of an ounce of powder of turmerick, and half a pint of vinegar. Put half of this into a pint of warm ale, and give it immediately: the other half muſt be given eight hours after in the ſame manner.

If the diſeaſe is of long ſtanding, bleed the horſe moderately; then bruiſe a double handful of woodlice in a mortar, put to them half a pound of woody night ſhade, a quarter of a pound of hemp ſeed, and a handful of celandine; bruiſe all together, and pour in by a little at a time a quart of hot ale; preſs out the ale and juice hard, and give it at two doſes. Repeat the bleeding the next day if it appear neceſſary, and give the ſame medicine every night and morning, till he is perfectly well. In all this time he muſt have only dry food, and that very ſweet and good in its kind; and now and then ſome hemp ſeed ſhould be given with it. He muſt have ſome exerciſe, but he will not be fit for hard labour till he is perfectly recovered.

Of caſting up the Food.

This diſorder ariſes from an overload of ſome new meat. When a horſe is turned into fine clover careleſsly, or when he eats largely of the freſh pulſe kinds often, his ſtomach falls into this diſorder; and he will caſt up every thing he ſwallows, water as well as food. The remedy for this diſorder is as follows:

Diſſolve in a pint of boiling water half an ounce of mithridate, a quarter of an ounce of philonium romanum, and an ounce of honey; add to this a dram of powder of cinnamon, and a pint of red port wine; and give it as a drench. He muſt not have any thing for two hours after it, and then only a little ſweet hay. After this feed him carefully, and give him moderate labour or exerciſe for three days, and there will be ſeldom any occaſion for repeating the drench; but if there ſhould, once more will make the cure effectual.

Of Weakneſs and Decay.

Theſe generally ariſe from a horſe having been too much worked; in which caſe nothing but reſt, good food, and nouriſhing medicines, can ſave him. The principal remedy in this caſe is the reſtorative balls, the manner of making which is thus:

Mix together two ounces of cinnamon in powder, four ounces of elecampane, two ounces of anniſeed, one dram of powder of ſaffron, and one ounce of red roſe buds dried and powdered. Grind all theſe well together, and mix them up with five pounds of the flour of thetches, preſs out the juice of mugwort to the quantity of two pints; add this to the powder and flower; then diſſolve a pound of honey in two quarts of white wine, and add this to the reſt; put in a pint of ſallad oil, and beat all up into a paſte. Roll it into balls as big as a gooſe egg, and give him one of theſe diſſolved in warm ale every night. He muſt be kept clean and dry, and frequently well rubbed. By theſe means he will grow gradually well, and the farmer may have ſeveral years more profit from his labour.

CHAP. V.

Of Oxen and Cows.

THE farmer ſhould be particularly careful, in the choice of theſe cattle, to conſider the nature of his ground. If his paſture be rich, he muſt purchaſe the larger breed; if otherwiſe, the ſmaller ſort. The Lancaſhire is the largeſt, and the Scotch and Welch the ſmalleſt; but there are many ſorts between. The natural breed of Yorkſhire are middle ſized, moſtly red and hardy; they yield very good profit, and will thrive on almoſt any ſoil. He muſt chuſe all his cattle of this kind of one ſort and colour, as well as one ſize. The breed will depend ſo much on the bull, that great care ſhould be taken to chuſe one that is ſtrong, well made, and healthy: he ſhould have a ſharp, quick countenance, his forehead broad and curled, his eyes black and large, his horns long, his neck thick, his belly long and large, his hair ſmooth, his back ſtraight and flat, his buttocks ſquare, his thighs round, his legs ſtraight, and his joints ſhort. This is the beſt kind of breed, and will produce the beſt oxen of draught.

No leſs care muſt be taken in chuſing the cow, for the breed will take partly after the one and partly after the other. She muſt have a broad forehead, black eyes, great clean horns, her neck long and thin, a large deep belly, thick thighs, round legs, ſhort joints, a white large deep udder, with four teats, and her feet large. The ſize of the cows, as of all other cattle, muſt be ſuited to the goodneſs of your land, though the largeſt commonly give the moſt milk; but whether you deſign them for breed, fatting, or milk, let them be ſuch as come off a worſe ground than your own.

The cow muſt not be put to bull till ſhe is three years old; and the beſt time is about the month of July. If ſhe has had a calf before it muſt be taken from her, and ſhe muſt be milked for three days after to prevent her udder being ſore. The red cow is reckoned to give the beſt milk, and the black to bring the beſt calves.

About a fortnight or three weeks before a cow calves put her into good graſs; or if it be Winter, give her hay, and when ſhe is calved keep her that day and night in the houſe, and let the water ſhe drinks be made luke-warm; turn her out about the middle of the next day, if ſhe be ſtrong and well cleaned, and take her in two or three nights more, giving her water a little warm every morning.

There are two ways of breeding of thoſe calves you deſign to rear; the one is to take them from the dams after they have ſuckled about a fortnight; and the other to let them run with the dam all the year. The latter, however, is the common way uſed in the cheap-breeding countries, and is reckoned to make the beſt cattle.

The moſt proper time for weaning calves is from January to May. Let them have milk for about twelve weeks, only a fortnight before you wean them, let water be mixed with it; and after they have drank milk about a month, take ſome of the ſweeteſt hay you have, and put little whiſps of it into ſome cleft ſticks, which place ſo as they may eaſily come at it to learn to eat. After Lady-day, when the weather is fair, they may be turned to graſs, but you muſt take them in a few nights at firſt, giving them milk and water. Your graſs muſt not be too rank, but ſhort and ſweet, that they may get it with ſome labour.

When your calves are weaned, and you have determined which to keep of the males for bulls, let the others be gelt for oxen, which the ſooner you do the better; and the beſt time and leaſt dangerous is when they are about ten or twenty days old.

The largeſt oxen are the moſt advantageous, if the ground be rich enough to maintain them; if not, ſuch as are ſuited to its quality will yield the moſt profit. A good ox for the plough muſt be neither too ſat nor too lean; the body ſhould be large, the legs long and ſtrong, the eyes full, the horns large, and the coat ſmooth and even: he muſt alſo anſwer to the goad, be obedient to the voice, and well trained; but it is only gradually, and by beginning early, that the ox can be brought willingly to bear the yoke, and be eaſily governed. At the age of two years and a half, or three at the lateſt, you muſt begin to tame him, and bring him under ſubjection; if delayed longer he becomes froward, and often ungovernable. The only method of ſucceeding is, by patience, mildneſs, and even careſſes, for compulſion and ill treatment will only diſguſt him; ſtroaking him gently along the back, clapping him, giving him occaſionally boiled barley, ground beans, and ſuch other aliments as pleaſe him beſt, all of them mingled with ſalt, of which he is very fond, will prove of the greateſt uſe. At the ſame time his horns ſhould be often tied, and ſome days after the yoke is to be put on his neck, and faſtened to a plough, with another ox of the ſame ſize ready trained; theſe are to be tied together at the manger, and in the ſame manner led to the paſture, that they may become acquainted, and accuſtomed to have one common motion. He muſt alſo be indulged, and labour only at ſhort intervals; for till he is thoroughly trained he tires himſelf very much; and for the ſame reaſon he muſt be fed more plentiful than uſual. After he has drawn the plough from his third to his tenth year, it will be adviſeable to fatten and ſell him, as being then of a better fleſh than if he was kept longer.

The age of this creature is known by his teeth and horns. The firſt fore teeth which he ſheds at the end of ten months, are replaced by others, larger, but not ſo white; at ſix months the teeth next to thoſe in the middle fall out, and are alſo replaced by others; and in three years all the inciſive teeth are renewed. They are then equal, long, and pretty white; but as the ox advances in years, they wear, become unequal, and black. It is the ſame in the bull and cow; ſo that the growth and ſhedding of the teeth are not affected by caſtration, or the difference of ſexes. Nor is the ſhedding of the horns affected by either; as both bull, ox and cow loſe them alike at the end of three years; and theſe alſo are replaced by other horns, which, like the ſecond teeth, remain; only thoſe of the ox and cow are larger and longer than thoſe of the bull. The manner of the growth of theſe ſecond horns is not uniform, nor the ſhooting of them equal. The firſt year, that is the fourth of the ox's age, two ſmall pointed horns make their appearance, nearly formed ſmooth, and towards the head terminated by a kind of button. The following year this button moves from the head, being impelled by a corneous cylinder, which alſo lengthening, is terminated by another button, and ſo on; for the horns continue growing as long as the creature lives. Theſe buttons become annular joints, which are eaſily diſtinguiſhed in the horn, and by which the age of the creature may be readily known; counting three years for the point of the horn to the firſt joint, and one year for each of the other intervals.

The diſeaſes of theſe creatures are fewer than thoſe to which the horſe is incident, and in general they are more eaſily cured; the principal of theſe, together with their reſpective remedies, are as follow:

Falling of the Palate.

This is a diſorder very troubleſome to cattle, but if taken in time the cure is eaſily obtained. Too much exerciſe in driving, or at labour, is the general cauſe of it. The creature groans, and is very uneaſy, and cannot eat till it is ſet right. When neglect has occaſioned it to be got up with difficulty, the beaſt ſhould be ſold for ſlaughter; but when taken in time, it will be cured by the following method:

Mix together an ounce of honey, and a quarter of an ounce of pepper: throw the beaſt down, and getting a hand into its mouth, place the palate right, and rub it over with ſome of the above mixture; then let him get up, and a little after bleed him. Let him eat only freſh meat, and he will not relapſe.

Of the Gargil

This diſeaſe is an inflammation about the neck, beginning in the outward part, and by degrees affecting inwardly. The firſt ſign of it is a hard hot ſwelling in the dewlap; and this ſpreads afterwards to the breaſt and throat. The firſt thing muſt be to bleed the creature largely; then make an opening in the dewlap where the ſwelling is, and put in as much of the leaves of bears-foot, pounded to a maſh, as the opening will hold. Sew this in with two or three ſtitches; it will cauſe a running, and give a ſtop to the diſeaſe. When it has run three days the threads muſt be cut, and the bears-foot taken out. Then melt ſome black baſilicon, and dip it in a pledget of tow; put this into the wound juſt warm, and repeat the dreſſing every day till it is healed. If the diſeaſe be obſtinate, and the ſwelling encreaſe, bleed again a day or two after.

Of the Garget.

This is a ſwelling and inflammation of the head, affecting in particular the eye and lips, and in the end inflaming alſo the gums and tongue. The creature muſt be blooded every day till the inflammation is ſubſided. Immediately after the firſt bleeding give two ounces and a half of Epſom ſalt, diſſolved in a pint of warm ale; after which, night and morning, let him have the following drench:

Take half a pint of warm ale, a quarter of a pint of juice of plantain, two ſcruples of ſalt prunella, and a quarter of an ounce of Venice treacle. Mix all theſe together, and give it in one doſe. Theſe methods will ſeldom fail of producing a ſpeedy cure; but the beaſt muſt be kept clean, dry, and quiet.

Of Worms in the Bowels.

This diſorder may be known by the creature's growing reſtleſs, pining away, and being hot and feveriſh. They will never thrive till perfectly cured, which may be effected by the following method:

Cut to pieces half a pound of ſavin, and a quarter of a pound of bears-foot; beat theſe in a mortar with a pound of coarſe lump ſugar, till they come to a ſoft paſte; then add an ounce of green copperas, and two ounces of powder of coralline. Make up the whole into balls about the ſize of a walnut, and give one every morning. If this ſhould not ſucceed alone, give after every doſe a quarter of a pint of ſallad oil.

Of bloody Urine.

This diſorder ariſes from the eating of green beetles, upon the twigs of ſhrubs in the hedges, where the cattle browze. The certain remedy for it is this:

Take a quantity of that Cranes-bill, which is called Herb Robert, bruiſe it in a mortar, and ſprinkle it with red port wine; when it is well maſhed, preſs out the juice, and give a quarter of a pint of it every night and morning. If three doſes do not perfectly ſtop the complaint, let the creature be blooded, and continue the medicine as before.

Of Surfeits.

Theſe are always attended with a fever, which is often very dangerous. At firſt the creature appears very uneaſy, then hangs down his head, foams at the mouth, breathes hard, and trembles all over. In this caſe the firſt thing is to bleed. If it be an ox, a quart of blood is a right quantity; but if a cow, a pint or very little more is ſufficient.

Boil in two gallons of water a pound of freſh leaves and roots of herb Bennet, and a quarter of a pound of agrimony; ſtrain off the liquor, and give it the creature warm for drink. An hour after the beaſt has had as much of this as it will drink, give a little freſh-mown ſweet graſs from a dry paſture; and ſome hours after repeat the drink again. At night give a quarter of an ounce of mithridate diſſolved in half a pint of warm ale; and continue this method till the cure is perfected.

Of Purgings.

Theſe are generally occaſioned by bad food; but they will be very hurtful ſometimes, proceeding ſo far as to bloody ſtools. In the firſt ſtage of the diſorder give the following mixture:

Boil half a pound of Biſtort, a quarter of a pound of tormentill, and two ounces of pomegranate, rined, in three quarts of water, till there is but one quart left. Diſſolve in this a quarter of a pound of Diaſcordium without honey, and add a pint of red port wine. Half a pint of this is to be given warm night and morning. If the bloody ſtool ſhould ſtill continue, add two ounces of Japan earth, and three drams of roch alum; give it in the ſame way as the other, and there will be little doubt of a cure.

Of Inward Sickneſs.

This is a term by which farmers expreſs an obſtruction in the liver or ſpleen, which makes the beaſt heavy, ſlothful and hot It breathes with difficulty, and the lips and mouth are dry. The remedy is this:

Bruiſe a large quantity of woody nightſhade, called Bitterſweet; moiſten it with ſome white wine while beating, and then preſs out the juice. Give the beaſt a quarter of a pint of this warm, with an ounce of honey melted in it; and repeat the doſe night and morning. Be careful to have the right woody nightſhade, for the others are poiſonous.

If the cure proceeds ſlowly, boil a great deal of fennel roots in water, and give it to the creature for common drink. And if this be not ſufficient, add to every doſe of the medicine three ſpoonfuls of the juice of woodlice.

CHAP. VI.

Of Sheep.

THESE creatures differ no leſs in their reſpective breeds, than in their ſize, and the quantities and goodneſs of their wool. If the farmer has a rich paſture, he ſhould chuſe the beſt; but if otherwiſe, he muſt be content to ſuit the kind to the nature of his ground.

With reſpect to the breeds there is no certain direction for their choice, becauſe they are often mixed; but in general the large Lincolnſhire ſheep are fitteſt for rich paſtures, that lie upon the banks of ſalt water rivers, or ſuch as are within the influence of the tide. The beſt for rich paſtures out of the reach of ſalt water is the Leiceſterſhire breed; and for thoſe whoſe graſs ground lies high, the Herefordſhire. Theſe laſt, though of a ſmaller kind, are yet very profitable. For a barren paſture the Worceſterſhire ſheep are beſt.

Whatever breed the farmer chuſes, he muſt be careful that the ſheep are good of their ſort. The wool muſt not be harſh, but oily and ſoft; the ſheep muſt be well ſhaped, and large boned for the ſize. The rams ſhould be choſen with particular care, becauſe the breed will in a great meaſure depend on them. They muſt have ſoft and well curled wool, with the ſkin white under it; the body ſhould be long, the forehead large and riſing, the eyes full, and their looks chearful. The ewes muſt be large bodied, their neck arched, round upon the buttocks, and ſhort legged.

The farmer ſhould not purchaſe thoſe ſheep that are in any part naked; for the loſs of wool is generally the conſequence of ſome inward or outward diſorder. He muſt be careful, likewiſe, to examine the mouth, for if the gums be not red and the teeth faſt, the creature will come to little good. The time of buying them in, when intended for breed, is two years old, and they will then breed five years very well. The age of a ſheep, like that of a horſe, is known by the mouth. When a ſheep is one ſhear, as the farmers expreſs it, there are two broad teeth before; when it is two ſhear, it will have four; when three, ſix; when four, eight. After this their mouths begin to break.

The quality of the land makes a material difference in the breed of the ſheep. The flat paſtures produce ſtrait, tall ſheep, and the barren hills and downs breed ſquare ſhort ones; woods and mountains breed tall and ſlender ſheep, but the beſt of all are thoſe bred upon new plowed land, and dry grounds. On the contrary, all wet and moiſt lands are bad for ſheep, eſpecially ſuch as are ſubject to be overflowed, and to have ſand and dirt left on them. The ſalt marſhes are, however, an exception to this general rule, for their ſaltneſs makes amends for their moiſture, any thing of ſalt, by reaſon of its drying quality, being of great advantage.

Before the rams are put to the ewes the farmer ſhould conſider at what time of the ſpring his graſs will be fit to maintain them and their lambs, and whether he has turnips to do it till the graſs comes; for very often both the ewes and lambs are deſtroyed by the want of food; or, if this does not happen, if the lambs are only ſtunted in their growth by it, it is an accident that they ſeldom recover. The ewe goes twenty weeks with lamb, and therefore it is eaſy to calculate the proper time for her to take ram. The beſt time for them to yean is in April, unleſs the farmer has very forward graſs, or turnips, or the ſheep are field ſheep, where he has not incloſures to keep them in, then it may be proper they ſhould yean in January, that the lambs may be ſtrong by May-day, and be able to follow the dam over the fallows and water furrows; but then the lambs that come ſo early muſt have great care taken of them, as, indeed, ſhould all other lambs at their firſt falling, otherwiſe, while they are weak, the crows and magpies will pick out their eyes.

If you ſave the graſs and weeds that grow in the land that you deſign to fallow in Winter, that is from Chriſtmas, and turn your ewes and lambs into them in March, if the Winter is mild it will be of great advantage to them.

When ſheep are turned into fields of wheat or rye to feed, it muſt not be too rank, for if it is, they will be ſubject to ſcower. Ewes that are big ſhould be kept but bare of food, for it is very dangerous for them to be fat at the time of their yeaning; except, indeed, about a fortnight or three weeks before they may be pretty well fed to ſtrengthen them.

When an ewe is near yeaning, ſhe muſt be ſeparated from the flock, and watched, in order to be aſſiſted; the lamb often preſents itſelf athwart, or with its feet firſt; and in this caſe, without aſſiſtance, the life of the ewe would be in danger. After yeaning, the lamb muſt be raiſed on its feet; at the ſame time all the milk in the ewe's udder muſt be milked out, it being vitiated, and very noxious to the lamb, which muſt be kept from ſucking till the udder is filled with freſh milk. The lamb muſt be kept warm, and for three or four days ſhut up with the ewe, that it may learn to know her, during which time the ewe muſt be fed with good hay, barley-meal, or bran mixed with a little ſalt; and water with the chill taken off, and mixed with a ſmall quantity of flour, bean-meal, or ground millet, given her to drink. At the end of four or five days ſhe may be gradually fed like the reſt, and ſent with the flock, taking care that ſhe be not driven too far, leſt her milk be heated. Some time after, when the ſucking lamb has gathered ſtrength, and begins to play, no farther care is requiſite; it may be left to follow its dam to the paſtures.

To bring up lambs yeaned in the months of October, November, December, January, and February, they muſt be kept in the houſe during the Winter, going out only in the morning and evening to ſuck; but in the beginning of April they may be turned into the open fields. Some time before this, a little graſs ſhould be daily given them, in order to habituate them by degrees to their new food. They may be weaned at the end of one month; but it is better to delay it for ſix weeks or two months. White lambs without ſpots are always preferred to the black or mottled, white wool being more valuable than any other.

The beſt time for cutting of lambs is at the end of five or ſix months, or even a little later in Spring or Autumn, when the weather is mild. This operation is performed by two different methods; the moſt common is by inciſion, when the teſticles, which are eaſily ſeparated, are drawn out through the wound. The other is performed without inciſion, by tying a ſtring very tight round the ſcrotum above the teſticles; for this compreſſion deſtroys the veſſels which ſupply them with blood and juices. The lamb, on caſtration, becomes ſickiſh and dull, ſo that it will not be improper to give him for two or three days, a little bran mixed with a ſmall quantity of ſalt, to prevent a loſs of appetite, which is often occaſioned by this operation.

The moſt proper ſeaſon for ſhearing of ſheep is about the middle or latter end of June, becauſe it is good for them to ſweat a little in their wool before you cut it, and they muſt be well waſhed, as it will be a great help to the price of the wool. After they are waſhed, let them go two or three days in clean dry ground before they are ſhorn;

in doing of which great care muſt be taken not to hurt them with the point of the ſhears, nor yet cut their ſkins, becauſe of the flies, and obſerve that the wool be well wound up. Some ſhear their lambs too, which they do cloſe behind, but very little before, eſpecially the firſt year; but before they are ſhorn, great care ſhould be taken to tag them, that is, to clip away the wool of their tails, and behind, that the dung may not hang on it, which otherwiſe will occaſion them to be ſore, and the flies to blow them.

The weathers have generally more wool than the ewes, and it is alſo better. That of the neck, and the top of the back is the prime; that of the thighs, tail, belly, throat, &c. is not ſo good; and the worſt is that taken from dead beaſts, or ſuch as are ſick. White wool is alſo preferred to the grey, brown, and black, as it may be dyed of any colour. Strait wool is better than curled; and it is even ſaid that the weathers whoſe wool is too much curled, are not in ſo good a ſtate of health as the others.

Another very conſiderable advantage may alſo be had from ſheep by folding them, that is, by leaving them for a proper time on lands intended for improvement. In order to this the ground muſt be incloſed, and the flock ſhut up in it every night during the Summer. Theſe incloſures are made with hurdles, which are ſo contrived as to remove from one ſpot to another as occaſion may require. By this means the dung, urine, and heat of the body of theſe creatures, will in a ſhort time bring the ground into heart, whether exhauſted, or naturally cold and barren. An hundred ſheep will in one Summer enrich eight acres of ground, which will continue its fertility ſix years.

Of the Diſeaſes of Sheep.

Among the various diſorders incident to theſe creatures the moſt fatal is the Rot, which is produced by wet lands, coarſe food and want of ſhelter. In this caſe, the ſheep ſhould be removed from ſuch places at the firſt appearance of the diſorder; and the ſick ſeparated from the ſound, becauſe the diſeaſe is ſpreading.

The ſigns of the Rot are feebleneſs, foulneſs of the ſkin, and particularly a dull and heavy look about the eyes. The gums grow white, the teeth foul, and the creature will be weak and ſcarce able to ſtir. Good air and ſhelter, and wholſome food and water are very great requiſites for recovery; for the Rot is rather a general decay than any particular diſeaſe. To effect a cure, however, to the above management, add the following:

Beat to pieces a quarter of a pound of juniper berries, and one ounce of bay berries, two drams of grains of Paradiſe; and add to theſe a pound and half of bay ſalt, and a half pound of loaf ſugar; grind all well together and keep it dry. Give the ſheep dry ſweet hay in troughs, and ſprinkle it with this powder. Boil a pound of maſterwort root in two gallons of water, and give this to them mixed with the water they drink. To thoſe that are ſtill worſe, give alſo three drams of mithridate diſſolved in a little warm ale every evening.

Of the Fever in Sheep.

This diſorder firſt ſhews itſelf by an inflammation in the eyes and mouth; the feet grow hot at the ſame time, and they are uneaſy and reſtleſs.

The uſual cauſes of this diſorder are cold and wet feeding; and when the whole flock is diſtempered together, as is ſometimes the caſe, it is as fatal almoſt as the rot. They muſt be removed to a piece of high and dry ground, and have ſhelter. Thoſe that are ill muſt be firſt blooded; after which give them the following medicine.

Diſſolve half an ounce of mithridate in a pint of warm ale; divide this into two doſes, and give one at night, and the other in the morning. If two doſes do not produce a good effect, add ten grains of powder of contrayerva to each doſe following, and in general two or three days will compleat the cure.

Of a Purging.

This diſorder is always dangerous to ſheep, becauſe their natural condition is to have their ſtools hard. Sometimes a feveriſh heat is the cauſe of a Purging; and then it is not to be conſidered as a diſeaſe, but as one of nature's remedies for a worſe. In other caſes medicines muſt be uſed, and the following will generally prove effectual:

Boil a pound of logwood in three quarts of water till it is reduced to two, put to this an ounce of diaſcordium without honey, and give a quarter of a pint of it warm four times a day. This will ſtop the purging, and the creature will be well in a few days.

Of Giddineſs in the Head.

This is a complaint common among ſheep that are too richly fed. The farmers call it ſturdineſs, and the ſturdy evil.

To cure this diſorder the ſheep muſt be bled three quarters of a pint; then diſſolve an ounce of aſſafœtida in a quart of water, add four ſpoonfuls of juice of garlick and two ounces of honey; give a quarter of a pint at a time once in three hours, till half is taken; then the reſt at doſes night and morning. Put the ſheep into hilly paſture ground, and they will eſcape a return.

Of the Staggers.

This is as common among ſheep as horſes; and that giddineſs of the head abovementioned is but a leſſer degree of it. In this caſe the ſheep trembles, and throws itſelf down, beats its head about, and appears to be in the greateſt miſery.

As ſoon as the diſorder is diſcovered, bleed the ſheep three quarters of a pint; then bruiſe a quantity of wood betony leaves, and half as much penny-royal; wet them with white wine, and preſs out the juice. Give this a quarter of a pint at a time, once in two or three hours, till the ſymptoms abate. If it does not anſwer quickly, give the aſſafœtida medicine before directed, and this alternately, till the creature is perfectly recovered.

Of Coughs.

If early care is not taken of this diſorder, the lungs will be inflamed, and the creature will die of an abſolute conſumption. No ſheep can be cured of this in the paſture where the diſeaſe was got, for that is always a damp one; the firſt thing, therefore, to be done, is to remove them into one that is dry and healthy, where the air is clear, and the graſs ſweet.

Preſs out the juice of colts-foot leaves, freſh elecampane root, liquorice, and hedge muſtard, of each equal quantities, beating them in a mortar

tar and moiſtening them with ſome mild ale; to a quart of the juice and five ounces of honey. Give a quarter of a pint of this for a doſe, once in twenty-four hours. Little more will be required to prevent all bad conſequences, and make the cure effectual.

Of Wheezing in the Throat.

This diſorder is principally incident to thoſe ſheep that are fed in low grounds. The firſt thing to be done is to drive them to a dry paſture, and take from them about eight ounces of blood. After this bruiſe equal quantities of marſh mallow root and penny-royal leaves, with one fourth part as much garlick; wet theſe as they are bruiſed with ſome warm water, and then preſs out the juice. In a quart of this diſſolve a quarter of a pound of honey, and give the ſheep a fourth part of it for a doſe. Theſe remedies will always cure them, if taken in time.

Of St. Anthony's Fire.

This is a contagious diſorder, and the ſheep that have it muſt be immediately ſeparated from the reſt of the flock. Let them be firſt bled, and then uſe the following medicine:

Bruiſe half a pound of linſeed, and the ſame quantity of marſh mallow root; boil them up in water till it is as thick as a jelly; ſpread this upon the inflamed part, and when it is dry, let it be repeated. The next day diſſolve an ounce of Glauber's ſalt in a quarter of a pint of water, and give it the ſheep, then waſh the part with weak lime water, and the diſeaſe will be ſoon cured, without danger of a relapſe.

Of the Red Water.

This is an inflammation that riſes into bliſters, whereas the former is dry. It appears upon the breaſt and belly, and is very dangerous. This diſorder is catching; therefore firſt ſeparate thoſe that have it from the reſt, and then give them the following medicine:

Mix half an ounce of crude antimony powdered, and two ounces of flower of brimſtone, with as much honey as will keep them together in a paſte; and give this at four ſeparate doſes. Bruiſe ſome freſh water dock and ſtinging nettle leaves, and then preſs out the juice. Diſſolve a fourth part of the paſte in a quarter of a pint of this juice, and give it every morning. Let the ſheep have ſweet graſs, a dry paſture, and good water. Cut the bliſters as faſt as they appear, and dreſs the places with ointment of elder.

Of the Cramp in the Legs.

This diſorder frequently ſeizes the ſheep in Autumn, eſpecially ſuch as have lain under the drip of trees; for which reaſon ſome call it the wood evil. Turn the ſheep into an upland paſture, keep them warm and dry, and give the following medicine:

Bruiſe a large quantity of black hoar hound, as much hedge muſtard, and half as much freſh valerian root. Boil them in a ſmall quantity of water, and preſs out the juice very hard; give a quarter of a pint for a doſe once in twelve hours. Rub the legs with hot vinegar, and drive the ſheep gently about, for ſome motion will aſſiſt the medicine in procuring redreſs.

CHAP. VII.

Of Swine.

THESE creatures being the moſt hardy of the farmer's ſtock, and always under his eye, are leſs ſubject to diſorders than any other; but there requires ſome ſkill in chuſing them, and the more carefully they are managed, the better they will ſucceed.

If the farmer has good convenience for feeding them, the moſt profitable kind is the common hog, which is large bodied and long legged; but this requires not only the beſt food but the greateſt care. The ſmall low bellied hog is hardier and feeds on any thing; it produces a great many young, and is in many caſes preferable to the other. When the farmer has convenience and abundance of good food, he ſhould chuſe the firſt; but in all other caſes the latter.

In the choice of hogs or ſwine for breed, take ſuch as are of long large bodies, deep ſided and bellied, that have a ſhort noſe, thick neck and thighs, ſhort legs, high claws, a ſhort ſtrong groin, and a thick chine well ſet with ſtrong briſtles. It is a neceſſary caution not to have too many ſows in one yard; for their increaſe is ſo great, that for want of food, they will not only devour whatever falls in their way, but will eat each other's pigs.

If the ſow miſs the time of going to boar that ſhe might have done in courſe, give her ſome parched oats in a pan in her waſh, or the ſmall end of the rennet bag, which will make her quickly brim or take boar. A ſow from the time ſhe is ſerved, to the delivery of her fare of pigs, goes about ſixteen or ſeventeen weeks, for the moſt part farrowing in the ſeventeenth; and if they are kept clean and well fed, will bring three fares of pigs in a year.

A boar ought to be a year old before he is ſuffered to couple, though they are capable of ſerving a ſow at half a year old. Nor ſhould a ſow be younger than a year old when ſhe is ſuffered to take boar; and then ſhe will breed ſeven years after, except ſhe happens to have too great a number of pigs at a fare; as that is, ſo will ſhe be fruitful a longer time.

Notwithſtanding a ſow will bring three farrows of pigs in a year, yet it will not be neceſſary or convenient to ſuffer them at every breaming to take boar; becauſe if they bring a great number of pigs, three farrowings in a year will weaken them too much: and conſequently the pigs themſelves would be weaker, and require a greater ſhare of nouriſhment to bring them forward than others that are ſtrong at their firſt farrowing, or ſhall then have the benefit of being ſuckled by a dam in full ſtrength.

Though a ſow may be with pig at the firſt breaming, as is generally the caſe, yet it will be moſt prudent to ſuffer her to keep company with the boar for ſome time afterwards, to prevent the caſting of her pigs before the time. She muſt likewiſe be carefully kept from the inſults of dogs, or from being too much hurried, for theſe ſometimes have cauſed them to ſlip their pigs after three months pregnancy.

Some young ſows at their firſt farrowing are ſubject to eat their pigs, and therefore ought to be watched carefully when they are near their time. The beſt method to prevent this, is to feed her well for two or three days before ſhe farrows; but if this be not done, then as ſoon as ſhe has farrowed, waſh the backs of the pigs with a ſponge dipped in an infuſion of aloes and water warmed, and this will prevent her from devouring them.

It is the opinion of ſome farmers, that the beſt bearing time is from November to the end of March, or the beginning of April, ſo that there will be pigs farrowed at the beſt ſeaſons, either for killing as for ſucking pigs, or for ſtock pigs, that is, thoſe to be turned into the ſtubbles after harveſt, to be reared.

The moſt proper time for killing ſucking pigs, and when they are firſt accounted wholeſome, is about three weeks old, and the others that remain for breed will ſoon begin to follow the ſow, and ſhift for themſelves.

As for the pigs you deſign to rear, after you have picked out the beſt for boars and ſows, the males are to be gelt, and the females ſpayed. The ſpayed gelts, as they are termed, are counted moſt profitable, by reaſon of the great quantity of fat they have upon their inwards more than other hogs. Young ſhoots, which are ſwine of about three quarters of a year old, are beſt for pork, and thoſe of a year, or a year and a half old, for bacon.

The moſt advantageous method of taking care of ſwine, is to feed them in ſuch manner that they may be kept in a middling condition till you would have them fattened; for if you keep them too fat, it will endanger their health, and if too lean, it will make them ravenous. It is likewiſe adviſeable, to give them ſuch ſwill as you have at hand every morning and evening, to make them come home to their cotes; the reſt of the day let them graze, and get what food they can, only when corn is upon the ground, care muſt be taken to keep them within bounds.

Moiſt ſedgy grounds are good for ſwine, the roots whereof they will eat; as alſo all ſorts of haws, hips, ſloes, crabs, maſts, acorns, &c. with which, if you have plenty enough to fat them, their fleſh will prove much better and ſweeter than if fattened in a ſtye. However, if they are fattened in ſtyes, the farmer ſhould obſerve to give them as much water as they will drink, and to keep them very clean, which will much forward their fattening, and mend the taſte of their fleſh. But if the farmer lives remote from a wood, or in caſe the year does not ſuit for acorns or maſt, they muſt be fattened altogether with peaſe, if cheap, but if otherwiſe, with the meal of barley, rye, or offal corn, which muſt be mixed with water, whey, or ſkimmed milk. Thus they will be ſupplied till grown fat, which will be in about a month's time; after this, a little before they are killed, they muſt be fed only with peaſe. And farther, it is requiſite that every ſtye has a yard well paved with ſtone, for the hog to go out and eaſe himſelf, that he may keep his lodging the cleaner, and receive the benefit of the ſweet air.

It is alſo neceſſary, when hogs are put up to fatten, that they ſhould be kept out of the hearing of the cry or grunt of other hogs; for otherwiſe, upon their firſt confinement, notwithſtanding they have great plenty of food given them, they will pine and decline in their fleſh.

When you are inclined to wean the pigs, feed them now and then when the ſow is from them, with the beſt milk that can be ſpared from the dairy. Let them firſt have it warm, but, at the end of three weeks, if you deſign to rear them, give it them cold, and then you may, at a month old, either let them be fed alone, or keep company with the ſow abroad

If you are to buy hogs, and ſuſpect their health, draw your hand againſt the grain of the hair; and if the roots be white and clean, the hog is ſound, but if they be bloody and ſpotted, he is ſick.

With reſpect to the diſtempers that hogs are ſubject to, they eaſily ſhew their illneſs by the hanging down of their ears, their dull heavy looks, and the loſs of their appetite, which they never recover till they are well again. The moſt common, however, as well as the moſt fatal diſorder, is

The Meazles.

In this caſe, the eyes look red and inflamed, and the ſkin grows foul, riſing in pimples, and running into ſcabs. It may be cured by the following method:

Put into a good warm meſs of victuals, half a table ſpoonful of ſpirit of hartſhorn, and two ounces of bole armoniac; keep him faſting from five o'clock in the afternoon till the next morning, then give it him, and he will eat it greedily. The ſame doſe muſt be repeated every day till he is cured, which will be in four or five days; and for two days after, he ſhould have half the doſe, to prevent a relapſe.

Of the Murrain.

This diſorder riſes from bad food and want of water. The firſt ſign of it is a running of the eyes, then the head ſwells, and the hog carries it on one ſide; after this he grows hot and weak, refuſes his victuals, and, if not cured, will pine away till he dies.

Diſſolve in a pint of ale, half an ounce of Venice treacle, an ounce of bole armoniac, and half a dram of ſalt petre; add to this four ounces of powder of grey ground liverwort. Mix it all with a good hot meſs of victuals, and give it early in the morning. When the hog has ate as much as he likes, take it away; then two or three hours after ſet it before him again, and give him no other food. This will bring him to be much better in a few days; and after that, a ſmaller quantity of medicine muſt be mixed with his victuals, but he muſt have ſome of it in all he eats till perfectly recovered.

Of the Pox in Hogs.

This is a name idly given to a diſorder in hogs, which is really no other than a more violent degree of the meazles before mentioned. The ſkin is not covered with pimples, but large blotches, and they break and become running ſores, which are afterwards covered with dry hard ſcales.

Give the hog three quarters of an ounce of mithridate in a warm meſs at night; and repeat it three times. Set over the fire in a pipkin a pound of hog's lard, and three quarters of a pound of tar. When they are melted and well mixed, take them from the fire, and ſtir in half a pound of the powder of roll of brimſtone. Waſh the hog very clean with ſtrong ſoap ſuds, and when he is dry, rub this ointment over all the places where the ſores are, then clean out the ſtye, and keep him dry and clean. Repeat this once in two days till he is well, which in all probability will be in three or four dreſſings.

Swelling of the Melt.

This diſeaſe is common among hogs, and often fatal. The creature appears giddy, and runs always on one ſide, lying alſo on that ſide, and rubbing it againſt walls. He pines away ſoon after, neglects his food, and ſhews the greateſt uneaſineſs. To cure this,

Bruiſe ſome woody nightſhade, and preſs out the juice; to a pint of it, put half a pint of juice of wormwood, and a quarter of a pint of the juice of penny-royal. Put half a pint of this into a meſs of victuals once every day, till he is well, which will be known by the recovery of his appetite.

Of the Lethargy.

Hogs that are troubled with this diſorder, will doze all day, and neglect their food. The beſt remedy is a ſtrong vomit, and the following will always anſwer:

Preſs out four ſpoonfuls of the juice of Aſarabacca leaves, and a pint of the juice of the wall pepper or yellow ſtone crop. Mix this with a meſs of warm victuals in the morning. He will vomit, though he eats but little, and will afterwards be infinitely the better for it. The doſe may be repeated at times till he is well, or, if it does not operate ſufficiently, it may be ſtrengthened with a dram of white vitriol.

CHAP. VIII.

Of Rabbits.

THESE creatures are not only very profitable to the farmer, on account of their great ine creaſe, but likewiſe the little expence that attends the keeping of them. They begin to breed at three quarters of a year old, and continue breeding ſo faſt, that it is no uncommon thing for them to have five or ſix litters in a year. The doe goes with young thirty days, and then kindles: after this, ſhe muſt not be ſuffered to take buck again till the young ones are ſix weeks old, at which time they may be taken from her. They have uſually from four to ſeven in a litter, and hence it is, that a ſmall number at firſt will ſoon ſtock a whole warren, if left to breed without being diſturbed. When the buck goes to the doe, he always beats and ſtamps very hard with his feet, and when he has copulated with her, he falls backwards, and lies as it were in a trance: in this ſtate it is caſy to take him, though he will ſoon after recover.

The male rabbits are very cruel in their diſpoſition, and will frequently kill the young ones, if they can get at them; but the does in the warrens prevent this, by covering their ſtocks or neſts with gravel or earth, which they cloſe ſo artificially up with the hinder part of their bodies, that it is difficult to find them out. They never ſuckle the young ones at any other time than early in the morning, and late at night, and always, for eight or ten days, cloſe up the hole at the mouth of the neſt in a careful manner, when they go out. After this they begin to leave a ſmall opening, which they increaſe by degrees, till at length, when they are about three weeks old, the mouth of the hole is left entirely open that they may go, for they are at that time big enough to take care of themſelves, and to feed on graſs.

Thoſe who keep tame rabbits for profit, breed them in hutches; but theſe muſt be kept very neat and clean, otherwiſe they will be always ſubject to diſeaſes. Care muſt likewiſe be taken to keep the bucks and does ſeparate from each other. The general computation of males and females is, that one buck rabbit will ſerve for nine does. Some allow ten to one buck; but thoſe who go beyond this will always ſuffer for it in their breed.

The principal conſideration in chuſing of tame rabbits is, to pick the largeſt and faireſt; but the breeder ſhould remember that the ſkins of the ſilver-haired ones ſell better than any other. The food of the tame rabbits may be colewort and cabbage leaves, carrots, parſnips, apple rinds, green corn, and vetches, in the time of the year; alſo vine leaves, graſs, fruit, oats, and oatmeal, milk thiſtles, ſow thiſtles, and the like; but with theſe moiſt foods they muſt always have a proportionable quantity of the dry foods, as hay, bread, oats, bran, &c. otherwiſe they will grow pot-bellied and die. In winter they will eat hay, oats, and chaff, and theſe may be given them three times a day; but when they eat green things, it muſt be obſerved that they are not to have any drink; becauſe it will throw them into a dropſy; and at other times when they have, care muſt be taken that it be always freſh.

When any green herbs or graſs are cut for their food, the farmer muſt obſerve that there is no hemlock among it; for though they will eat it greedily among other things when offered to them, yet it is immediate poiſon.

The common method of catching wild rabbits is by nets, called purſe nets, and ferrets. The ferret is ſent into a hole to force them out, and the purſe net being ſpread over the hole, takes them as they come out. The ferret's mouth muſt be muffled, and then the rabbit will receive no harm. For the more certain taking of them, it may not be improper to pitch up a hay-net or two at a ſmall diſtance from the burrows that are intended to be hunted, as by this means very few of them will eſcape.

Some who have not ferrets, ſmoke the rabbits out of their holes with burning brimſtone and orpiment. This method will certainly bring them into the nets; but then it is very troubleſome and offenſive, beſides being very detrimental to the place, as no rabbit will, for a long time after, come near the burrows which have been thus fumed with theſe ſtinking ingredients.

Others take them either by ſmall cur dogs, or by ſpaniels bred up to the ſport; and the place of hunting thoſe that ſtraggle from their burrows is under cloſe hedges or buſhes, or among cornfields and freſh paſtures.

The principal infirmities to which rabbits are ſubject, conſiſt of two, the firſt of which is the rot. This is occaſioned by giving them too large a quantity of greens, or from their being freſh gathered, with the dew or rain hanging in drops upon them. The greens ſhould, therefore, be always given dry, and a ſufficient quantity of hay, or other dry food, intermixed with them, to take up the abundant moiſture of their juices. The ſhorteſt and ſweeteſt hay is the beſt, and if early applied after the diſcovery of the diſeaſe, will prevent any fatal conſequences.

The other general diſeaſe of theſe creatures is a ſort of madneſs. This is known by their wallowing and tumbling about with their heels upwards, and leaping in a ſtrange manner. It is ſuppoſed to ariſe from the rankneſs of their food; and the general cure is the keeping them low, and giving them the prickly herb, called tare-thiſtle, to eat.

C H A P. IX.

Of Fowls.

THE farmer's ſtock cannot be ſaid to be compleat, without the aſſiſtance of theſe uſeful creatures, the advantages of which muſt appear to every one who keeps them. And ſo equal is the diſtribution of their bounties, and ſo trifling the expence attending them, that the pooreſt villager may reap the ſame benefit from their products as the moſt ſubſtantial farmer.

As it would be unneceſſary in this place to give a particular deſcription of the various ſorts of cocks and hens, we ſhall only adviſe the purchaſer to chuſe thoſe that are the beſt breeders and the beſt layers; the oldeſt being always reckoned the moſt proper for ſitting, and the youngeſt for laying. Care, however, muſt be taken that they are not kept too fat, as in this caſe no ſort will be good for either.

The beſt age to ſet a hen for chickens is from two years old to five, and the beſt month to ſet them is February; though any month between that and Michaelmas is good. A hen ſits twenty days, whereas geeſe, ducks, and turkies ſit thirty. Obſerve to let them have conſtantly meat and drink near them while they ſit, that they may not ſtraggle from their neſts, and the eggs thereby loſe their nouriſhment.

It is ſaid that if fowls are fed with buck or French wheat, or with hemp-ſeed, they will lay more eggs than ordinary; and buck wheat, either the whole, or ground, and made into paſte, which is beſt, is a grain that will fat fowls or hogs very ſpeedily; but the moſt common food for this purpoſe is barley meal, moiſtened with milk or water.

The nature of the hen ſhould be as nearly equal as poſſible with that of the cock; ſhe ſhould be working, vigilant and laborious, both for herſelf and her chickens; in ſize the biggeſt and largeſt are the beſt, every proportion anſwerable to thoſe of the cock, only inſtead of a comb, ſhe ſhould have upon her crown a high tuft of feathers. She ſhould have many and ſtrong claws; but it will be better if ſhe has no hinder claws, becauſe they often break the eggs; and beſides, ſuch as have, do ſometimes prove unnatural.

Hens that crow are neither good breeders nor good layers.

In chuſing of hens for hatching the oldeſt are the beſt, becauſe they are more conſtant, and will ſit out their time; but if you chuſe for laying, take the youngeſt, becauſe they are luſty, and prone to generation; but do not chuſe a fat hen for either of theſe purpoſes, for if ſhe be ſet, ſhe will forſake her neſt; the eggs ſhe lays will be without ſhells, and ſhe will grow ſlothful and indolent.

The beſt eggs are thoſe that are laid when the hens are a year and a half, or two years old; at which time, if you would have large eggs, give them plenty of victuals, and ſometimes oats, with fenægreek, to heat them: for thoſe that are fat generally lay but ſmall ones. Mix ſome chalk with their food, or mix ſome brick with their bran, moiſtened with a little water, and give them their fill of half-boiled barley, with vetch and millet.

There are ſome hens that have the ill faculty of eating their eggs; to prevent which, take out the white of an egg, and put moiſt plaiſter round about the yolk till it grows hard; and when the hen attempts to eat it, and finds ſhe cannot do it, ſhe will ſoon give over breaking her eggs. You may likewiſe pour a clear plaiſter upon the yolk of an egg, and let it harden, ſo that it may ſerve for a ſhell, and put it into the neſt; or you may ſhape an egg of plaiſter, or chalk, and let that be for a neſt egg.

Hens that have ſpurs often break their eggs, and inſtead of hatching them, will ſometimes eat them: theſe muſt be ſcoured, as well as thoſe that ſcratch and crow like a cock; firſt by plucking the great quills out of their wings, and by feeding them with millet, barley, and paſte, cut into ſmall pieces, pounded acorns, and bran, with pottage, or crumbs of wheat bread ſteeped in water.

They muſt be kept in a cloſe place, and at reſt, and their feathers muſt be pulled from their heads, thighs, and rumps. If a hen be too fat, or has a looſeneſs, ſhe will lay wind eggs.

The beſt time to ſet a hen, that the chickens may be large and moſt kindly, is in February, in the increaſe of the moon, that ſhe may diſcloſe the chickens in the increaſe of the next new moon; for one brood of this month is worth three of any other. Hens, however, may ſet from March to October, and have good chickens, but not after that time; for the winter is a great enemy to their breeding.

A hen ſits juſt twenty-one days; and if you ſet her upon the eggs of ducks, geeſe or turkies, you muſt ſet them nine days before you put her own eggs to her, of which a hen will cover nineteen: whatever may be the number you ſet her with, be careful that there is always an odd one.

When you put the eggs under her, it will be neceſſary to make ſome particular mark on one ſide of them, and to obſerve whether ſhe turns them from that to the other: if ſhe does not, then take an opportunity, when ſhe is from them, to turn them yourſelf. Be careful that the eggs you ſet her with be new, which may be known by their being heavy, full, and clear; neither ſhould you chuſe the largeſt, for they have often two yolks; and though ſome are of opinion that ſuch will produce two chickens, it commonly proves a miſtake; but if they do, the production is generally abortive.

If a hen is diſturbed from her neſt, ſhe will entirely forſake it; and you muſt be careful to place her meat and water near her during the time ſhe is ſitting, that her eggs may not cool while ſhe is gone to ſeek for food. If ſhe be abſent from her neſt, ſtir up the ſtraw, make it ſoft and handſome, and lay the eggs in the ſame order you found them.

It may not be improper to perfume her neſt with roſemary or brimſtone; and you muſt take care that the cock does not come at the eggs, and ſet upon them; for he will not only endanger the breaking of them, but will cauſe the hen to diſlike her neſt.

Your hen-houſe muſt be large and ſpacious, with a high roof and ſtrong walls, to keep out thieves and vermin: let there be windows on the eaſt ſide, that they may enjoy the benefit of the riſing ſun, and theſe muſt be ſtrongly lathed and cloſe ſhut; upwards, and round about the inſides of the walls upon the ground, ſhould be made large pens of three foot high for geeſe, ducks and large fowls to ſet in, and near unto the evings of the houſe ſhould be long perches, reaching from one ſide to the other, on which ſhould be ſet cocks, hens, capons, and turkies. At another ſide of the houſe, at the darkeſt part, over the ground pens, fix hampers full of ſtraw for neſts, in which the hens ſhould lay their eggs; but when they ſit to hatch chickens, then let them ſit on the ground.

There muſt be pins ſtuck in the walls, that the poultry may climb to their perches with the greater eaſe.

The floor of the hen-houſe muſt not be paved, but made of earth, ſmooth and eaſy. Let the ſmaller fowl have a hole made at one end of the houſe to go in and come out when they pleaſe, otherwiſe they will ſeek out rooſt in other places; but for larger fowl, you may open the door every night and morning.

The moſt advantageous ſituation for a hen-houſe is near ſome kitchen, brew-houſe, bake-houſe, or kiln, where it may have the air of the fire, and be perſumed with ſmoak, which to pullets is not only wholeſome, but agreeable.

When your chickens are hatched, if any be weaker than the reſt, wrap them in wool, and let them receive the benefit of the fire; it will alſo be neceſſary to perfume them with roſemary. The firſt hatched chickens may be kept in a ſieve till the reſt are diſcloſed, for they will not eat for two days; ſome ſhells being harder than others, they will require ſo much more time in opening; but unleſs the chickens are weak, or the hen unkind, it will not be improper to let them continue under her, as they will thereby receive the greater nouriſhment.

Two days after they are hatched, give them very ſmall oatmeal, ſome dry, and ſome ſteeped in milk, or elſe crumbs of fine white bread; and when they have gained ſtrength, you may give them curds, cheeſe-parings, white bread, cruſts ſoaked in drink or milk, barley meal or wheaten bread ſcalded, or the like ſoft meat that is ſmall and will be eaſily digeſted.

They muſt be kept in the houſe a fortnight, and not ſuffered to go abroad with the hen to worm. Green chives chopped among their meat is very good, and will preſerve them from the rye or other diſeaſes in the head. Be careful to let them have clean water, for if it is dirty, it will be apt to give them the pip. Neither muſt you let them feed upon tares, darnel, or cockle, for theſe are very dangerous to young ones, nor let them go into gardens till they are ſix weeks old.

Thoſe chickens you intend to cram, muſt be cooped up when the dam has forſaken them, and cram them with dough made of wheaten meal and milk, which dip in the latter, and thruſt down their throats; but be careful they are not too big, as it will otherwiſe choak them.

If you want to fatten chickens, you muſt put them into coops, and feed them with barley meal. Put likewiſe a ſmall quantity of brick-duſt into their water, for that will not only give them an appetite to their meat, but will fatten them very ſoon. For in this caſe, it muſt be conſidered, that all fowls and other birds have two ſtomachs; the one is their crop, that ſoftens their food, and the other the gizzard, that macerates it. In the laſt are generally found ſmall ſtones and ſharp ſand, which help to do that office, and without them, or ſomething of that kind, a fowl will be wanting of its appetite; for the gizzard cannot macerate or grind the food faſt enough to diſcharge it from the crop without ſuch ſand or ſtones, and therefore, in this caſe, the brick duſt is very uſeful.

The diſeaſes incident to hens are as follow:

Setting hens are ſometimes troubled with lice and vermin; for the cure of which, pound burnt cummin and ſtaphiſagar, of each equal quantities, mix it with wine, and rub them with it, or waſh them with a decoction of wild lupines.

If hens are troubled with a looſeneſs, mix a handful of barley meal, and as much wax, in ſome wine; make it into a meſs, and give it them in the morning before they have any other meat, or elſe let them drink a decoction of quinces or apples.

It ſometimes happens, that hens by laying too many eggs, or ſitting too long, exhauſt their ſtrength, and languiſh. To remedy this, take the white of an egg, and roaſt it till it appears burnt; mix this with an equal quantity of dried raiſins, alſo burnt, and give it them the firſt thing in the morning.

CHAP. X.

Of Ducks.

THERE are two ſorts of theſe birds, viz. the tame and the wild. The tame ducks are extremely uſeful to the farmer's yard, in that they require little expence or attendance, their food principally conſiſting of loſt corn, worms, ſnails, &c. At one time in the year they lay a great number of eggs, eſpecially that ſort that turns up the bill more than the common kind. Little attendance is required while they ſit, except to let them have ſome barley or offal corn and water near them, that they may not hurt their eggs by ſtraggling from their neſt.

It is generally eſteemed more advantageous to ſet a hen upon the duck eggs, than any kind of duck whatever, becauſe the latter will lead them, when hatched, too ſoon to the water, where, if the weather be cold, in all probability ſome of them will be loſt. The number of eggs to ſet a duck on is about thirteen. The hen will cover as many of theſe as of her own, and will bring them up as well.

If the weather be tolerably good at the time the ducklings are hatched, they will require very little attendance; but if they happen to be produced in a wet ſeaſon, it will be neceſſary to take them under cover, eſpecially on nights; for though the duck naturally loves water, it requires the aſſiſtance of its feathers, and till grown, is eaſily hurt by the wet.

The method of fattening ducks is exactly the ſame, let their age be what it will. They muſt be put into a retired place, and kept in a pen, where they muſt have plenty of corn and water. Any ſort of corn will do, and with this ſingle direction they will fatten themſelves extremely well in a fortnight or three weeks time.

To preſerve wild ducks you muſt wall in a piece of ground wherein is ſome little pond or ſpring, covering the top of it all over with a net: the pond muſt be ſet with tufts of oziers, and have many ſecret holes and creeks, that they may be the better inured to their habitation. The wild duck, when ſhe lays, ſteals away from the drake, and hides her neſt, for otherwiſe he will ſuck the eggs. After ſhe has hatched ſhe is very careful to rear her young, and needs no attendance more than meat, which muſt be given twice a day, as ſcalded bran, oats, or vetches. Teals, widgeons, ſhell-drakes, or green plovers, may be likewiſe ordered in the ſame manner.

CHAP. XI.

Of Geeſe.

THESE are no leſs advantageous to the huſbandman than the former, as they require little expence in keeping, and are profitable for food, their feathers and their greaſe. They will live upon commons, or any ſort of paſture; and need little care or attendance, except the having plenty of water.

In chuſing of geeſe, the largeſt are reckoned the beſt; but there is a ſort of Spaniſh geeſe that are much better layers and breeders than the Engliſh, eſpecially if their eggs are hatched under an Engliſh gooſe. It muſt be obſerved that the colour of them ſhould be white or grey, for pyed are not ſo profitable, and the darker coloured are ſtill worſe.

It may eaſily be known when geeſe will lay by their carrying of ſtraw in their mouths; and when they will ſit by their continuing on their neſts after they have laid. The time for laying is the ſpring, and the earlier the better, becauſe of their price, and of their having a ſecond brood. A gooſe ſits thirty days; but if the weather be fair and warm, ſhe will hatch three or four days ſooner. During the time of her ſitting you muſt be careful, when ſhe riſes from her neſt, to give her meat, as ſheg oats, and bran ſcalded, and let her have the opportunity of bathing in water.

When the goſlings are hatched, you muſt keep them in the houſe ten or twelve days, and feed them with curds, barley-meal, bran, &c. After they have got ſtrength, let them go abroad for three or four hours in a day, and take them in again, till they are big enough to defend themſelves from vermin.

One gander will ſerve five geeſe.

In order to fatten green geeſe, you muſt ſhut them up when they are about a month old, and they will be fat in about a month more. Be ſure to let them have always by them in a ſmall rack ſome fine hay, which will much haſten their fatting. But for fatting of older geeſe, it is commonly done when they are about ſix months old, in or after harveſt, when they have been in the ſtubble fields, from which food ſome kill them; but thoſe who are inclined to have them very fat, ſhut them up for a fortnight or three weeks, and feed them with oats, ſplitted beans, barley-meal, or ground malt mixed with milk.

It may be obſerved, that all water-fowl, while fattening, uſually ſit with their bills on their rumps, where they ſuck out moſt of their moiſture and fatneſs, at a ſmall bunch of feather which you will find ſtanding upright on their rumps, and always moiſt; but if you cut this cloſe away, it will make them fat in leſs time and with leſs meat than otherwiſe.

Geeſe will likewiſe feed on, and fatten well with carrots cut ſmall: or if you give them rye before or about Midſummer, (which is commonly their ſickly time) it will ſtrengthen them, and keep them in health.

It is cuſtomary in ſome countries to ſhear the geeſe for their feathers, and others pull them twice in the year; but this latter way is more injurious to them, and therefore it is better to ſtay till their moulting time, or till they are killed for uſe.

CHAP.

CHAP. XII.

Of Turkies.

THESE birds are naturally inclined to ramble, and will therefore thrive beſt in open countries, where there is not much ſhelter to harbour vermin. They are of a very tender conſtitution, and while young, muſt be carefully watched and kept warm; for the hens are ſo negligent, that while they have one to follow them, they will never take any care of the reſt. Some people, where they have the convenience of a ſmall covert near the houſe, let them take their liberty, and ſeek their own neſts; but it is only in particular places that they do well with ſuch management.

Turkies are great feeders of corn, and if kept on it will devour a great quantity; but if left to their liberty when grown up, they will get their own living, by feeding on herbs, ſeeds, &c. as they are very apt to ſtraggle, they will often lay their eggs in ſecret places, and therefore the common ſort of them muſt be often watched, and compelled to lay at home. They begin to lay in March, and will ſit in April; but they ſhould not be ſuffered to ſit on more than eleven or thirteen eggs at moſt.

When they have hatched their brood (which will be in between twenty-five and thirty days) you muſt be particularly careful to keep the young ones warm; for the leaſt cold will kill them. They muſt be fed either with curds, or green freſh cheeſe cut in ſmall pieces; and let their drink be new milk, or milk and water. Some give them oatmeal and milk boiled thick together, into which they put wormwood chopped ſmall, and ſometimes eggs boiled hard, and cut in little pieces. They muſt be fed often, for the hen will not take much care of them; and when they have got ſome ſtrength, feed them abroad in a cloſe walled place, where they cannot ſtray; you muſt not let them out till the dew is off the graſs, taking care to have them in again before night, becauſe the dew is very prejudicial to their health.

If you fatten turkies, give them ſodden barley or ſodden oats for the firſt fortnight, and for another fortnight cram them as you do capons. They are only to be crammed in a morning, which muſt be given to them warm, and let out all day, being ſometimes fed with corn while out; becauſe, as they are ſullen birds, they will otherwiſe be apt not to fatten ſo kindly.

Turkies eggs are not only reckoned very wholeſome in general, but will likewiſe greatly contribute to the reſtoring of decayed conſtitutions.

CHAP. XIII.

Of Pigeons.

THE profits ariſing from theſe birds are not only very conſiderable, but very certain; for they breed faſt, and there is a conſtant demand for them. If the farmer is not already provided, the beſt time to furniſh himſelf is in May or Auguſt; becauſe at theſe times there are a great number of young pigeons, which may be purchaſed at a very little expence.

Pigeons are of various ſorts, ſuch as carriers, pouters, runts, tumblers, &c. but the two principal are the tame and dovecote. The former of theſe is no leſs valued for its beauty than the largeneſs of its body; but the latter, which is the kind uſually kept in dovecotes, and thence receives its name, is ſmaller, and leſs beautiful.

If the farmer's ſituation lays near a large town, it may be worth his while to keep ſome of the large tame kind; becauſe, although they cannot be fed but at a great expence, yet their young come ſo early, and are ſo fat and fine, that they command a price which very well returns it: but in the country the common pigeon is the proper kind; for though the price they fetch is not near ſo great, their number, and ſmall expence of keeping, make ample amends.

Tame pigeons generally produce but two young ones at a brood; but they make ſome amends for the ſmallneſs of the number, by the frequency of their hatching; for if well fed, and looked after, they will have young ones twelve or thirteen times in the year. In chuſing of them the beauty is generally moſt regarded; but care ſhould be likewiſe taken to pair them well, becauſe in this caſe they will be the more firmly attached to each other.

The farmer muſt be careful to keep them clean, for they diſlike dirt, though they make a great deal of it. Their beſt food is tares, or white peaſe, and they ſhould have beſides this ſome gravel and clean water ſcattered about at all times. A great deal of care muſt be taken to preſerve them from vermin, and their neſts from the ſtarlings and other birds, as the latter will ſuck their eggs, and the former entirely deſtroy them.

The common or dovecote pigeon is a ſort that not only demands, but deſerves the utmoſt attention of the huſbandman; and of this breed is properly that which is called the common blue pigeon. This has the advantage of many other kinds, in that it is hardier, and will live in the moſt ſevere weather. But if the breed ſhould be too ſmall for the farmer's purpoſe, he may mend it by putting in a few tame pigeons of the moſt common kind, and the leaſt conſpicuous in their colours, that the reſt may the better take to them from their being more like themſelves: this, however, muſt be done with caution; for though the ſize of a pigeon's body is a plain advantage, yet it is well known in the kinds in general, that the ſmalleſt bodied will produce the greateſt number of young.

The ringdove has been by ſome introduced into the dovecote, by ſetting the eggs under a common pigeon; they will in this caſe live, and take their chance among the others; and they have two advantages over them, the one in their largeneſs, and the other in their hardineſs, for they will live on any food, and endure the moſt ſevere weather.

Pigeons feed to the greateſt advantage in thoſe counties, where the huſbandman ſows large quantities of horſe beans and grey peaſe. Theſe ſorts of pulſe are ſown earlier than other kinds of grain; and their early feeding upon them makes them healthful and ſtrong at thoſe times, and is an occaſion of their breeding earlier than they do elſewhere, which is a conſideration of no little importance.

It is a neceſſary requiſite to the farmer to preſerve a proper proportion of the ſexes among his pigeons; for there is nothing ſo hurtful as the having too many cocks, eſpecially if they keep the larger or tame kind. It is his buſineſs to keep his dovecote well ſtocked; and moſt people who keep them make their conſciences eaſy about deluding away thoſe belonging to their neighbours; but this abundance of cocks thins the dovecote, for they grow quarrelſome, and will beat others away; till by degrees a very thriving dovecote ſhall be, by this ſingle miſtake, reduced to a poor condition.

The cheapeſt and moſt eaſy way of making a dovecote is to build the walls with clay mixed with ſtraw; they may be made four feet or more in thickneſs, and while they are wet it is eaſy to cut holes in them with a chiſſel or other inſtrument. But of whatever materials the cote be erected, it ſhould be white-waſhed frequently on the outſide. The pigeon, as has been ſaid already, is a cleanly bird: it loves the appearance of neatneſs; and beſide, the white colour renders the building more conſpicuous.

With reſpect to the food of pigeons, excluſive of the peaſe and tares already mentioned, barley is very proper, heartening them very much, and making them lay; and for the ſame purpoſe buckwheat alſo is an excellent as well as cheap food. In general, however, the common pigeons in a dovecote take care of themſelves, and need no food from their keeper. There are only two ſeaſons at which it is neceſſary or proper to feed them. One of theſe times is the depth of Winter, when the ground is covered with ſnow, or hardened ſo by froſt, that little is to be got; and the other is the middle or latter end of June. The reaſon of feeding them in the firſt of theſe ſeaſons is obvious; the latter, when the farmers ſpeak of this fowl, they call benting-time. There is a graſs called bent graſs, the ſeed of which is ripe about this time, and is the only food of that kind the pigeons can eaſily get at, the peaſe not being yet ripe. This is a very poor food, and the pigeons at this time have generally many young broods; wherefore the farmer will always find his account in giving them food at this ſeaſon as well as the other. This, however, continues but a ſhort time, and the other is only neceſſary at the ſevereſt days of Winter: ſo that the pigeon is, at the moſt, but a ſmall expence, and that for a very ſhort time.

Pigeons are very fond of ſalt, and therefore the breeder of them ſhould have a large heap of clay laid near the dovecote, and let the brine of the family be continually beaten among it; or he may make a kind of mortar with lime, ſand, clay and ſalt, which they will peck with great ſatisfaction. When it is thus made on purpoſe for them, it is beſt to make it thin, and keep it ſo, by often mixing brine with it.

There are ſome farmers who lay what is called a ſalt cote near the dovecote. This is a large lump of ſalt made for the purpoſe at the ſalt pans, and is the method generally taken where there are works in the neighbourhood; but the way of uſing ſalt in a mixture with clay is far preferable.

The beſt compoſition, however, for this purpoſe, and which has been found ſo by experience, is the following. A heap of lome is to be laid near the dovecote, and beat up to a kind of pap with brine or water; into this muſt be thrown a large quantity of bay ſalt and a little ſalt petre, to which muſt be added about three quarters of a peck of coarſe ſand. When brine is uſed to beat up the lome, leſs ſalt is to be uſed; and when water, there muſt be the more of it in proportion. And in the ſame manner, if the lome contain a great quantity of ſand, the leſs is to be added to it: and if it contain leſs, the more is to be given. Where lome is not to be had, clay will do, but then a much larger quantity of ſand muſt be put in; and the beſt ſand for this purpoſe is large coarſe ſea ſand, which is already impregnated with ſalt water.

It is very remarkable that the pigeon ſhould love ſalt in this manner; and its fondneſs for ſalt petre, which is very great, is not ſo well known, though this might have been diſcovered, by obſerving the likeneſs this bird has to the mortar in old walls, which contains a ſalt very nearly allied to the common ſalt petre.

The uſe of ſalt is of much more advantage to pigeons than merely the pleaſing of them, for nothing will recover them ſo readily from ſickneſs; a mixture of bay ſalt and cummin ſeed being with them an univerſal remedy for all diſeaſes.

Various methods have been uſed by the country people to make the pigeons love their habitation. Some have adviſed the uſe of aſſafœtida, and others of cummin ſeed, for this purpoſe; but the beſt method of all others, is to keep up conſtantly ſuch a heap of ſalted lome as before deſcribed; for it is what they love, and they will therefore ſtay where they can have it in plenty. By this means, with the addition of keeping the dovecote neat and clean, and not ſuffering them to be diſturbed in it, the farmer will be ſure to keep the ſtock in good number, and too likely to increaſe it at the expence of his neighbours.

Beſides the advantages already mentioned ariſing from theſe birds, there is one other which is peculiar to themſelves, that is, their dung, the value of which not only ſurpaſſes the ordure of other fowl, but even of all creatures whatever; one load of it being worth ten of other dung. It is uſually ſown on wheat or barley that lies at a great diſtance where other manure cannot be conveniently carried, forty buſhels of which will ſerve for an acre of land. It is an excellent ſoil for cold moiſt grounds, being ſown by hand after the corn, and in the ſame manner, and then harrowed in with the ſeed.

Pigeons are ſometimes apt to be ſcabby on the backs and breaſts, which diſtemper will kill the young ones, and make the old ones ſo faint that they cannot take their flights to procure meat. In order to cure this diſtemper, take a quartern of bay ſalt, and as much common ſalt, a pound of fennel ſeed, a pound of dill ſeed, as much cummin ſeed, and an ounce or two of aſſafœtida; mix all theſe together with a little wheat flour, and ſome fine worked clay; when it is well beat together, put it into two pots and bake them in an oven; and when they are cold, lay them longways on the ſtand or table in the dove-houſe, and the pigeons by pecking of it will be effectually cured.

CHAP. XIV.

Of Bees.

THE farmer's ſtock cannot be ſaid to be thoroughly compleat without the aſſiſtance of theſe induſtrious inſects, who are no leſs to be valued for the profits of their labour, than the trifling expence and trouble attendant on keeping them.

Your apiary or bee-garden ſhould be ſituated as near as poſſible to the houſe, that you may the better look after them at the time of their ſwarming. It muſt be ſecurely fenced from all ſorts of cattle, eſpecially hogs, and from all ſorts of fowl, whoſe dung is very prejudicial to their health. They muſt be well defended from high winds on every ſide, with ſuch fences as will admit the heat of the ſun; but they ſhould be ſheltered with a brick wall that is ſolid, in order to keep the wind from coming through, as well as over it; that place being beſt for them which is moſt expoſed to the ſouth, and where they may have the beſt opportunity of ſettling when they return to their habitation. You ſhould alſo plant ſeveral trees and ſhrubs at a ſmall diſtance from home, that they may not want a reſting place at the time of their ſwarming.

When you have fitted the place, the next conſideration is to provide ſeats for the hives, which muſt be placed a little on the ſlope, that the rain may neither run into the hive, nor lay about the entrance.

You ſhould not ſet any hives on a bench, becauſe in winter it may occaſion the bees to fight, by going into each-others houſes, which they ſometimes miſtake for their own; and therefore ſome eſteem ſingle ſtools beſt, which are to be ſet at about two feet diſtance, and ſupported with four legs, about twelve or fourteen inches from the ground. They ſhould not be above half an inch or an inch bigger than the hive, except only before, where there ought to be the ſpace of three or four inches, that the bees may have room enough to light upon it.

The beſt ſtools are of wood; thoſe made with ſtone being too cold in winter, and too hot in ſummer. They ſhould be placed towards the ſouth, or rather a point or two to the weſt, that the hive may in ſome degree break the eaſt wind from the door, and ſtand in ſtrait rows from eaſt to weſt.

Hives are made various ways in the different parts of England, but the warmeſt and beſt are thoſe made of ſtraw, the bigneſs of which ſhould be of between five and ſeven gallons, of a round form, rather broad than high; but you ought to have of each ſize, that you may ſuit your ſwarms to them according as they are bigger or leſſer; and where you deſign to multiply your ſtock, make uſe of ſmall hives, and of the larger where you deſire a great deal of honey.

When your hives are thus made, you muſt dreſs them after the following manner: Take off all the ſtaring ſtraws, twigs and jags that are offenſive in the hive, and make them as ſmooth as poſſible. If you need but few hives, you may prune them with a knife; if many, ſinge and rub them with a piece of brimſtone.

Having pruned your hive, put in your ſpleets three or four of them, as the largeneſs of the hive ſhall require: the upper ends whereof ſet together at the top of the hive, and the low faſten about a handful above the ſkirt. Beſides theſe ſpleets the hive ſhould have four others driven up into the ſkirts to keep it from ſinking when it is loaded; two of which are the door-poſts, and the other two the hind poſts.

A little before ſwarming-time rub the hives with ſweet herbs, as thyme, balm, ſavoury, marjoram, fennel, hyſſop, bean-tops, &c. and when the ſwarm is ſettled, take a branch of the tree whereon they pitch, and wipe the hive clean with it, and wet the inſide of the hive with honey, mead, ſalt and water, ſmall beer, or honey and milk.

Your hives muſt be kept cloſe for defence of your bees, firſt, from the cold by mixing of cow-dung with lime or aſhes, and with ſand, with which you muſt ſtop up the edges of the hive round, and againſt winter put a wicket of a ſmall piece of wood, in which are three or four notches cut juſt big enough for the bees to go in and out at, that they may not be deſtroyed by vermin.

It will be good for ſwarms if the Spring be mild, calm and ſhowering; but if it proves a cold, dry, windy Spring, then there will be but few ſwarms, and thoſe alſo backward.

If the Spring be early you muſt begin to look after them about the middle of May, at which time you muſt obſerve what you can of the uſual ſigns that precede their ſwarming, that you may be the more watchful over thoſe that require it.

When the hives are full they will caſt out their drones, although they be not quite grown, and the bees will hover about the doors. In cold evenings and mornings there will be a moiſture or ſweat upon the ſtool, and they will continually be running up and down haſtily, and lie out in ſultry evenings and mornings, and go in again when the air is clear and mild. They delight to riſe in warm and calm weather; but eſpecially in a hot gleam, after a ſhower or gloomy cloud hath ſent them home together. Sometimes they gather together without at the door, not only upon the ſtool, but the hive alſo; where when you ſee them begin to hang in ſwarming time, and not before, you may be ſure, if the weather continues, they will preſently riſe.

If the bees lie forth continually under the ſtool, or behind the hives, eſpecially towards the middle of June, it is a ſign or cauſe of not ſwarming: for when they have once taken to lie forth, the hive will always ſeem empty, as though they wanted company, and they will then have no inclination to ſwarm.

Stormy and windy weather alſo will not ſuffer them to ſwarm, when they are ready, and that makes them lie out; and the longer they lie out, the more unwilling they are.

In order to make them ſwarm, ſome keep the hives as cool as may be, by watering and ſhadowing both them and the place where they ſtand, and then enlarging of the door to give them air, they move the cluſter gently with their bruſh and drive them in. But if they ſtill lie out and ſwarm not, then the next calm warm day about noon, while the ſun ſhineth, put in the better part with your bruſh, and the reſt gently ſweep away from the

ſtool,

ſtool, not ſuffering them to cluſter again. Theſe riſing in the calm and heat of the ſun, by their noiſe, as though they were ſwarming, will make the others come forth, and probably produce the wiſhed for effect.

Various other methods have been attempted to cauſe them to ſwarm, as by placing a large pewter-platter under the cluſters of bees as they hang out in the heat of the ſun, ſo that it may ſtrongly reflect the heat upon them, and thereby provoke them to ſwarm. But if neither of theſe methods ſhould ſucceed, and they lie forth ſtill, then rear the hive enough to let them in, and cloom up the ſkirts all but the door.

If this does not anſwer, there is no method that can.

The ſigns of after-ſwarms are more certain. When the prime ſwarm is gone, about the eighth or tenth evening after, when another brood is ready, and again hath over-filled the hive, in the morning before they ſwarm they will come down near the ſtool, and there they call one another, and at the time of ſwarming they deſcend to the ſtool, where anſwering each other with thick and ſhrill notes, the multitude come forth in great haſte. If the prime ſwarm be broken, the ſecond will both caſt and ſwarm the ſooner; it may be the next day, and after that a third, and ſometimes a fourth, but all uſually within a fortnight.

It is a general cuſtom, when the ſwarm is riſen, to make a noiſe with a pan, kettle, mortar, &c. but ſome reckon it an inſignificant ceremony, and others eſteem it prejudicial.

After they have choſen a reſting place, you will quickly ſee them knit together in a cluſter; when they are fully ſettled, and the cluſter hath been ſome time at the biggeſt, then hive them. And having in ſtore ſeveral hives of different ſizes, make choice of one that the bees may go near to fill it that year, and let the hive be rubbed with ſweet herbs as before mentioned.

The perſon who hives them ſhould waſh his hands and face with beer, or being otherwiſe defended, if the bees hang upon a bow, ſhake them into the hive, and ſet the ſame on a mantle or cloth on the ground; or, if the bough be ſmall, you may cut it off, and lay it on the mantle or cloth, and ſet the hive over it. If they light near the ground, lay your cloth under them, and ſhake them down, and place the hive over them. Thoſe that gather together without the hive, wipe gently with your bruſh towards it; and if they take to any other place than the hive, wipe them off, and rub the part with may-weeds, nettle, wormwood, &c.

Sometimes the ſwarms will ſeparate, in which caſe, if they light in ſight of each other, let alone the greater, and diſturb the leſſer part, and they will fly to their fellows: but if not in ſight, hive them both in two ſeparate hives, and bring them together, ſhaking the bees out of one hive on the mantle whereon the other hive ſtands, and place the other full hive on them, and they will all join together.

If your ſwarm ſhould happen to come late after the middle of June, and that they are ſmall, under the quantity of a peck, then put two or three of them together, whether they riſe the ſame day, or in divers: for by this uniting they will labour carefully, and gather great ſtore of honey.

The method of uniting them is thus: When it grows duſk in the evening, having ſpread a mantle on the ground near unto the ſtool, where this united ſwarm ſtands, ſet a pair of reſts, for two ſupporters for the hive; knock down the hive out of which you intend to remove your bees upon the reſt; then lift up the hive a little, and clapping it between your hands to get out the bees, ſet the ſtock to the ſwarm to which you would add them, upon the reſts or ſupporters over them, and they will ſoon after aſcend into the hive; what remains in the empty hive, by clapping it, will haſten after their companions.

Thoſe who have the principal management of bees, ſhould be careful to defend themſelves againſt the venom of their ſtings, the ſureſt way of doing which is to have a net knit with ſmall meſhes that a bee cannot get through, and of fine thread or ſilk large enough to come over your hat, and to lie down to the collar of your doublet, through which you may clearly ſee what you do without any danger. But if you ſhould happen to be caught, pull out the ſting as ſoon as you can, and take a piece of iron and heat it in the fire; or for want of that take a live coal, and hold it as near and as long to the place as you can poſſibly endure it; after which anoint it with ſome honey or mithridate, and you will be effectually cured.

When a ſwarm has entered its hive, they immediately (if the weather will permit) gather wax and build combs; ſo that in a few days time there will be compleat combs. They lie ſo thick about them, that it is impoſſible one quarter of them can be employed at once, until the combs are brought to a conſiderable length, and then a great part of them may be employed in filling them, and the reſt in finiſhing their cells.

Towards the end of Summer, their number begins to leſſen; for in their proſperity at ſwarming time, and ſhortly after, they are far more in number than in the Autumn or Winter, as you may eaſily diſcern between the quantity and number of a ſwarm, and thoſe you kill when you take them; for the bees of the laſt year's breed do now by degrees waſte and periſh by their extraordinary labour, their wings decay and fail them; ſo that a year with ſome advantage, is the uſual age of a bee, and the young only of the laſt Spring ſurvive and preſerve the kind till the next.

The moſt proper time to remove an old ſtock of bees is a little before or after Michaelmas; or if you have miſſed that time, then about the end of February or beginning of March, before they go much abroad, leſt it prevent their ſwarming. The beſt time to do this is in the evening, next after hiving; and the method is thus: Take a board about the breadth of the bottom of the hive you intend to remove, and in the evening, or two or three evenings before, lift it up, and bruſh the bees that are on the ſtool forward, and let the board be a little ſupported by two ledges, to prevent the death of the bees on the ſtool. On this board ſet the ſtock, and ſo let them ſtand till you remove them. When you come to move them, ſtop up the door of the hive, and ſet the board whereon the hive ſtandeth, on a hand-barrow, and carry them to the place where you intend to fix them.

There is little uſe in feeding of bees; firſt, becauſe thoſe that have not a profitable ſtock of honey to ſerve them over the Winter, are not fit to keep; and then becauſe they that are bee-maſters, and have not care enough of them to keep them from ſpending of that ſtock they have in Winter-time, muſt not expect to reap any conſiderable advantage by them; and it may be preſumed will never take ſo much pains and care as is required in feeding of them.

However, there are ſome ſtocks of bees in the Spring time that may ſeem worthy of our care to preſerve, viz. ſuch as have but a ſmall quantity of honey, and a good number of bees, by means of a cold, dry, unſeaſonable Spring, cannot make ſuch timely proviſion as in other years they might have done, yet in all probability may prove an excellent ſtock, and may be worth conſideration.

The beſt method of ſupplying bees with food is by ſmall canes or troughs conveyed into their hives; and the moſt proper time of feeding them is in March, when they begin to breed, and to ſit on their young, which muſt be daily continued till the Spring ſeaſon affords them eaſe and proviſion abroad, becauſe at that time their combs are full of young ones.

Honey is not only the beſt, but the moſt natural of all food, and will go much farther if it is mixed well with a moderate quantity of good ſweet wort. Some preſcribe toaſts of bread ſopped in ſtrong ale, and put into the bee-hive, whereof they will not leave one crumb remaining; ſome alſo adviſe to put in the hive dry meat, or flour of beans; others bay ſalt, roaſted apples, &c. which are very good, eſpecially ſalt; which, if ſome were mixed with water, and always ſet near them, it might do well, as it is certain that bees near the ſea always thrive the beſt.

Another propoſition for the improvement of bees, is to take a handful of baum, one dram of camphire, half a dram of muſk diſſolved in roſemary, as much yellow bees-wax as is ſufficient, oil of roſes as much, ſtamp the baum and camphire very well, and put them in the melted wax with the oil of roſes, and ſo make it up into a maſs, letting it cool before you put it in the muſk, for otherwiſe the heat will fume away moſt of the ſcent. Take of this maſs ſo much as a hazle-nut, and leave it within the bee-hive; it will greatly increaſe the number of the bees, and you will alſo find both honey and wax three times more profitable than it otherwiſe would have been.

Various have been the endeavours to find out ſome way of reaping the profit of bees without deſtroying them, but as theſe have all failed in their attempts, we ſhall only deſcribe the common method, and that is, the taking of combs by killing the bees, which certainly muſt be the only way of ordering them, becauſe it is impoſſible for them to live, if you deprive them of their food; and, therefore, about the latter end of Auguſt, conſider with yourſelf what ſtalls you will keep and what you will kill. The beſt ſwarms to keep, are thoſe of one or two years ſtanding; and thoſe of three or four, which by reaſon of their ſwarming the laſt Summer, are full of bees, and are the moſt likely to be the beſt; but thoſe of that age which have caſt hives, not being likely to continue, are to be taken, as are alſo poor ſwarms not worth the feeding, and all light ſtocks, and ſuch as do not carry out their droſs, and drive away the drones in good time: alſo thoſe whom the robbers eaſily aſſault, are to be ſuſpected; and if their combs be once broken, delay not their taking; and alſo all ſtalls of three years old, or upward, that have miſſed ſwarming two years together, eſpecially thoſe that have lain out the Summer before and did not caſt the laſt Summer, for ſuch do ſeldom proſper; and therefore it is better to take them while they are good, than in a vain hope of increaſe to keep them till they periſh. Neither is it ſafe to truſt to any after they have ſtood five years and upwards, that have miſſed ſwarming two years together, unleſs it be ſome ſpecial ſort of bees, which always keep themſelves in heart; ſuch as theſe may be kept nine or ten years. Likewiſe if you have any that are very full of honey, as in ſome years it will ſo happen, even down to the ſtool, ſuch ſtall is worth three or four, and therefore take them in their proper time.

When you have made choice of your ſtalls to be taken, two or three hours before ſun-ſetting, dig a hole in the ground about nine inches deep, and almoſt as wide as the hive-ſkirts, laying the ſmall earth round about the brims; then having a little ſtick ſlit at one end, and ſtripped at the other, take a brimſtone match five or ſix inches long, and about the bigneſs of your little finger, and making it faſt in the ſlit, ſtick it in the middle or ſide of the hole, ſo that the top of the match may ſtand even with the brim of the pit, or within one inch of it, and then ſet another by it dreſſed after the ſame manner, if the firſt be not ſufficient. When you have fired the matches at the upper end, ſet over the hive, and preſently ſhut it cloſe at the bottom with the ſmall earth, that none of the ſmoke may come forth, and the Bees will be dead in a ſhort time.

After the hive is taken and houſed, lay it gently on the ground upon the ſides, not on the edges of the combs, and looſen the end of the ſplints with your finger, and the edges of the combs where they ſtick to the ſides of the hive, with a wooden ſlice; take them out one after another, and having wiped off the half dead bees with a good feather, break the combs while they are warm into three pieces.

The firſt produce of the combs, and which runs of itſelf, is called Virgin honey, as is alſo that which comes from the firſt year's ſwarm. This is by far the beſt, being more cryſtalline and of a finer taſte than that which is ſqueezed out of the combs, and may therefore be kept for particular uſes, or for making of the fineſt mead.

When the combs have done running, put the honey up warm into pots by itſelf, and it will for two or three days work up the ſcum of coarſe wax, droſs and other ſtuff, which muſt be taken off. The other honey, which is the coarſer ſort, muſt be got from the combs by preſſing them, which you may likewiſe pot, except what you deſign for immediate uſe in making of metheglin. This being done, what remains put into a hair bag, and waſh in a trough or other veſſel, and when the ſweetneſs is all out, try the balls for wax; the manner of ordering which is thus: Take the wax and droſs, and ſet it over the fire in a kettle, or other veſſel, that may eaſily contain it, and pour in ſo much water as will make the wax ſwim, that it may boil without burning, and for this reaſon, while it is gently boiling over the fire, ſtir it often; when it is thoroughly melted, take it off the fire, and preſently pour it out of the kettle into a ſtrainer of fine thin linen, or of twiſted hair, ready placed upon a ſcrew or preſs, lay on the cover, and preſs out the liquor (as long as any wax comes) into a kettle of cold water, but firſt wet both the bag and the preſs, to keep the wax from ſticking; at the firſt cometh moſt water, in the middle moſt wax, and at the laſt moſt droſs. When the wax grows hard, make it into balls, ſqueezing out the water with your hand; which when you have done, break all the balls into crumbs, and in a kettle or ſkillet ſet it over a gentle fire; while it is melting, ſtir it and ſkim it with a ſpoon wet in cold water, and as ſoon as it is melted and ſcummed clean, take it off, and pour it into a pan or mould, beſmearing the bottom and ſide, firſt with honey (the wax being as cool as it will run through a linen ſtrainer:) when you come near the bottom, pour it gently, till you ſee the droſs come, which ſtrain into ſome other thing by itſelf, and when it is cold, either try it again, or keep it for uſe.

If there is any froth remaining on the top of the pan or mould, blow it together at one ſide, and ſkim it off gently with a wet ſpoon. This done, ſet not the cake abroad where it may cool too haſtily, but put it in a warm place not far from the fire, and if it be a large cake, cover it warm, to keep the top from cooling till the inward heat be allayed, and in this manner let it ſtand, not moving it till the cake be cold. If it ſhould ſtick, warm the veſſel or mould a little, and it will ſlip out eaſy.

Good wax is very valuable, the properties of which are, that it is yellow, odoriferous or ſweet, fat, faſt or cloſe, light, pure, being void of any other matter. It will always produce a good price, eſpecially Engliſh wax, which is much better than foreign, and generally ſells for about five or ſix pounds per hundred, it being of an extraordinary uſe both in ſurgery and phyſic, beſide what is made of it for lights, the clearneſs and ſweetneſs of which ſurpaſſes that of any other kind whatever.

In phyſic or ſurgery it is reckoned a mean between hot and cold, between dry and moiſt, being the ground of all ſearcloths and ſalves: it mollifies the ſinews, and ripens and reſolveth ulcers; the quantity of a pea being ſwallowed down by nurſes, diſſolveth the milk curdled in the breaſt.

Its oil is of excellent virtue to cure wounds, be they ever ſo large or deep (being before ſtitched up) in ten or twelve days at the moſt, and healeth ſmall wounds in three or four days, by only anointing the wound therewith. It is likewiſe good for inward diſeaſes; if you give one drachm at a time in white wine, it will provoke urine, help ſtitches and pains in the loins, the cold gout, and all other complaints which ariſe from a cold.

The honey is little inferior, either in its benefit or uſefulneſs, to the wax; it is of ſubtil parts, and therefore pierceth as oil, and eaſily paſſes the parts of the body; it hath a power to cleanſe, and therefore it openeth obſtructions, and cleareth the breaſt and lungs of thoſe humours that fall from the head; it looſeneth the belly, purges the foulneſs of the body, and provoketh urine; it nouriſheth very much, and breedeth good blood; it prolongeth life, and keepeth all things uncorrupted which are put into it; and therefore phyſicians uſe it in ſuch medicines as they intend for long preſervation.

It is alſo an eminent ingredient in the great antidotes of treacle and mithridate, and is good againſt pleuriſies, phthiſicks, and other diſeaſes of the lungs. In any diſtemper, however, it is much better to be taken clarified than raw, it being thereby made lighter of digeſtion, leſs laxative and ſharp, and much more nouriſhing.

Having thus deſcribed the laſt article which comes under the head of the farmer's ſtock, we ſhall now proceed to ſuch other matters as equally require the care and attention of the induſtrious huſbandman.

CHAP. XV.

Of the Cultivation and Management of Turnips.

THE advantages ariſing from turnips, are ſo many and ſo great, that few crops can reaſonably be eſteemed before them. As they are ſerviceable for the changing the crop, and for the feeding of cattle, they muſt come frequently into uſe in the farmer's courſe of tillage, and he will be obliged to ſow them upon various kinds of ſoil;

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but that which ſuits them beſt of all is a black mellow earth, with ſome ſand among it, or a rich fine lome. They will never ſucceed well in wet heavy lands; nor will they arrive at their natural perfection in ſuch as are light, without a degree of richneſs to feed them.

As this root may be raiſed either in the common way of ſowing, or by the drill and horſe-hoeing huſbandry, the defect of a ſoil may be aſſiſted by better culture. In good land the turnip may grow to its full perfection in the common method of culture; but when the ground is poorer, thoſe methods will be more advantageous which can give nouriſhment to the crop while growing.

Turnips will follow various crops with advantage. The ſowing upon ſtubble land is a very good method, in which caſe the ſeed need only be harrowed in and rolled; and unleſs the Winter ſhould prove very ſevere, there will be an excellent feeding for the ewes and lambs late in Spring, when other food is ſcarce. Beans and peas are alſo very properly followed by turnips, and the ground after all theſe is in a due condition, without requiring any other preparation than plowing up, and in many caſes even that is unneceſſary.

The ſeed of the turnip will bear trampling upon without damage, which has given riſe to the practice of ſcattering it upon crops before they are cut. Being round and ſmooth, it is not ſubject to hang in the ſtalks of the plants, but gets to the ground, and there lies till the reapers come in, and their treading preſſes it into the ground; ſo that by the time the crop is well off, the turnip-ſeed is ready to ſhoot, and the plants after eſcape better in the ſeed leaf thus, than any other way. The quantity of ſeed ſhould be ſomewhat greater when they are ſown this way, than any other, becauſe ſome will fail; and the ground ſhould be tender, and free from ſtones.

In chuſing of the ſeed, the farmer ſhould principally conſider the nature of the ſoil; for if it be very good, the common turnips will yield him the moſt advantage. It will grow in fields to as much perfection as in a garden, when the ground is of this ſort, and it has careful management. If the field be of an inferior ſort of earth, he has choice of the Suffolk and the yellow turnip; but the fineſt ſeed of the common kind is that brought from Germany. Whatever ſort the ſeed be, the farmer ſhould always get it from ſome perſon who lives at a diſtance, and ſhould take care it be the ſeed of a crop which has grown upon a land of as different a kind as poſſible from that where he is to ſow it.

The ſeaſons of the year for ſowing muſt be choſen according to the uſe for which the turnips are intended: thoſe for ſeed are to be ſown in Spring; but this is the ſmalleſt quantity. Thoſe intended for food of cattle are to be ſown either at Midſummer for a Winter crop, or in Autumn, for one late in Spring, which laſt method has very great advantages. The Midſummer ſowing ſubjects them more than any other to that dangerous enemy the fly, which feeds on the firſt leaves: the Autumn ſowing on the other hand, is apt to introduce that diſtemper in the root itſelf called the ambury. Thoſe of the Spring ſowing often eſcape theſe accidents, merely from the rains of that ſeaſon, but they come to their growth at a time when they are leaſt wanted; therefore we ſhould endeavour to obtain, for the Midſummer and Autumn ſowings, the ſame kind of ſecurity which nature gives to thoſe of Spring. Thoſe ſown at Midſummer ſhould have the ground plowed about five weeks before to ſweeten, and then tray-fal-

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lowed juſt before the ſowing; after which the ſeed ſhould be harrowed in, and if rain follows at the time of their ſhooting, they will be very ſecure. One pound of ſeed is the general allowance for an acre of land.

The time which is called the Midſummer ſowing may be varied according to the nature of the ſoil: where that is cold and ſomewhat heavy, the beginning of June is the beſt time; but in lands that are extremely light and warm, it will be better to keep the ſeed out of the ground till the latter end of July. At whatever time, and in whatever manner turnips are ſown, rolling will be of great advantage to them; it preſſes the ground about the ſeeds, and gives ſtrength to the firſt ſhoots.

When the crop makes its firſt appearance, the ground ſhould be carefully watched. If the fly attacks the young plants, they are often entirely deſtroyed by it; in which caſe the buſineſs is to ſow the land again as quick as poſſible.

When the plants have got four or five leaves, they ſhould be hoed to deſtroy the weeds, and to cut up the plants when they are too thick, leaving the remaining ones about ſix or eight inches aſunder each way, which will be room enough for the plants to ſtand for the firſt hoeing: the ſooner this is done when the plants have four leaves, the better they will thrive; but in the ſecond hoeing, which muſt be performed about a month after the firſt, they ſhould be cut up, ſo as that the remaining plants may ſtand fourteen or ſixteen inches diſtance, or more, eſpecially if they are deſigned for feeding of cattle; for where the plants are allowed a good diſtance, the roots will be proportionably large; ſo that what is loſt in number will be overgained by their bulk. But in ſuch places where they are ſown for the uſe of the kitchen, they need not be left at a greater diſtance than ten inches or a foot, becauſe large roots are not ſo generally eſteemed for the tables.

When turnips are ſown in drills (which is a method uſed by ſome farmers) they will require to be hoed by hand, to ſeparate and cut out the plants, where they are too near together in the rows; as alſo to cut up the weeds between the plants, where the plow cannot reach them. If this is carefully performed, the plowing of the intervals will encourage the growth of the roots, by thus ſtirring of the ground, and make it much better prepared for the crop of barley, or whatever elſe is ſown the following Spring.

Among the various weeds incident to turnip fields is the charlock, which has ſo much the appearance of the turnip itſelf in the firſt growth, that the unſkilful may eaſily take one for the other.

The worſt evil that attends a crop of turnips is that of their being deſtroyed by the fly, which uſually happens ſoon after the plants come above ground, or while they are in the ſeed leaf; for, after they have put out their rough leaves pretty ſtrong, they will be paſt this danger. This always happens in dry weather; ſo that if there ſhould be rain when the turnips come up, they will grow ſo faſt as to be in a few days out of danger from the fly; and it hath been found that thoſe which have been ſown in drills have eſcaped it much better than thoſe ſown in broad-caſt; but if ſoot is ſown along with the ſurface of each drill, it will be of great ſervice to keep off the fly, and a ſmall quantity of it will be ſufficient for a large field.

The beſt method, when turnips are ſown in drills, is to plow between every row at firſt, and ſome time after to plow the alternate intervals, by which means the plants will receive more benefit from the often ſtirring the ground, than they would do if all the intervals were hoed at one time; and plants will be in leſs danger of ſuffering from the earth being thrown up too high on ſome rows, while others may be left too bare; but when the earth has been thrown up on one ſide of the drill, it may be turned down again ſoon after the next interval is ploughed. This alternate moving of the earth will prepare the ground very well for the ſucceeding crop, and greatly improve the turnips; but as the plough cannot well be drawn nearer to the drills than two or three inches, the remaining ground ſhould be forked to looſen the parts, and make way for the fibres of the roots to ſtrike out into the intervals; otherwiſe, if the land is ſtrong, it will become ſo hard in thoſe places which are not ſtirred, as to ſtint the growth of the turnips.

When the ground is thus ſtirred in every part, one plowing will be ſufficient, after the turnips are eaten, for the ſowing of barley or any other crop; ſo that there will be an advantage in this, when the turnips are kept late on the ground, as will often be the caſe, eſpecially when they are cultivated for feeding of ewes, becauſe it is generally the middle of April before the ground will be cleared; for late feed in the Spring, before the natural graſs comes up, it is the moſt wanted, where numbers of ſheep or ewes are maintained, and one acre of turnips will afford more ſeed at that ſeaſon than fifty acres of the beſt paſture.

When the ſeaſon comes for eating the turnips, it is beſt upon all accounts to do it on the ground; for the dung, urine, and ſweat of the creatures, while they ſeed, enriches the earth. But the turnips ſhould always be pulled up; for if they be eaten as they grow, they are never knawed clean down; in which caſe they grow again after the land is plowed, and will ſpoil a good crop that may be ſown upon it afterwards; for when the turnip riſes as a weed, there is none worſe. When the ground wants the refreſhment of the dung and urine of the ſheep, the beſt way is to incloſe a piece of it into a kind of fold, with hurdle-fences, and ſo pull up all the turnips in that compaſs, and lay them on the ground. When they have eat theſe, the fold is to be removed, and a freſh piece of the ground incloſed in the hurdles, pulling up all the turnips in that ſpace as the other, and ſo on through the whole field.

When the turnip field is in good heat, and does not require this aſſiſtance, the beſt way will be to feed the ſheep upon ſome piece of land that does; thus. Make a fold with hurdles upon the land intended to be enriched, and putting in the ſheep, pull up the turnips out of their proper field, and put them into the fold: the ſheep will eat them up, leaves as well as roots, and the hurdles are then to be moved, to make the fold in a new place, and ſo on till the whole ground has been covered.

In order to ſave good turnip feeds, the farmer ſhould tranſplant ſome of the faireſt roots in February, placing them at leaſt two feet aſunder each way, obſerving to keep the ground clear from weeds, until the turnips have ſpread ſo as to cover the ground, when they will prevent the weeds from growing. When the pods are formed, you ſhould carefully guard them againſt the birds, otherwiſe they will devour them, eſpecially when the ſeed is near ripe; at which time you ſhould either ſhoot the birds as they alight upon the ſeed, or lay ſome bird-lime twice upon it, whereby ſome of them will be caught; and if they are permitted to remain ſome time, and afterward turned looſe, they will prevent the birds from coming thither again. When the ſeed is ripe it muſt be cut up, and ſpread to dry in the ſun; after which it may be threſhed out, and preſerved for uſe.

CHAP. XVI.

Of Beans.

THERE are various ſorts of this kind of pulſe; but as the horſe bean more materially concerns the attention of the farmer, we ſhall principally confine ourſelves to the cultivation of that ſort.

The beſt ſoil for this purpoſe is a tough lome, which is rendered black by a large mixture of good mould in it. They will alſo thrive very well in that black deep earth which is upon the borders of fenny ground; and wherever their roots can be kept moiſt, and defended from the ſun.

The ſituation of the land is another article of conſequence for a bean crop. They require air, and yet will not bear too much expoſure. Experience has ſhewn us, that in ſmall incloſures beans will by no means ſucceed, nor will they ever produce an abundant crop upon hilly ground. The moſt proper ſituation, therefore, is in ſome large incloſure in the flat ground, where they are ſafe from blaſts by the place being under cover, and where yet there is a free courſe of air, and moiſture at the bottom.

When the land is choſen, the preparation of it for the crop lies in a very ſmall compaſs; for as it naturally follows ſome others of a more valuable kind, the greater part of this has been executed before. Themſelves ſerve to prepare it in ſucceſſion for corn, and in particular for wheat; for the beans ſhade and mellow the ground with their tall ſtalks; and as they muſt be kept weeded, or they will yield little produce, the ſame weedings render the ground clean for the growth of the corn.

The culture of the garden bean and horſe bean is ſo much the ſame, that the farmer who lives near a great town, or in the way of a large demand, may raiſe the garden kinds at pleaſure, by the ſame methods as we ſhall lay down for the horſe bean; but he is to conſider this latter as his more proper concern, for the value and uſe of a crop of horſe beans are univerſal.

In chooſing the ſeed he is to have regard to two kinds: theſe are the common horſe bean, and the tick or large horſe bean, the latter of which, where the ground is proper for it, is by far the moſt valuable. This tick bean is as large as the ſmall hotſpur bean, and anſwers all the purpoſes of horſe beans better than the common kind, but it requires more culture and a better ſoil. Therefore, if the ſoil and ſituation of the ground intended for a bean crop be fully ſuch as here directed, let the farmer get the true tick bean for ſeed, which he will know by the ſize, and the freſh and fine colours: the beſt are to be had from the Hertfordſhire farmers, and they ſhould be ſound, and of the laſt year's growth: for though they will ſhoot at two or more years old, the plants are never ſo ſtrong; and for that reaſon the crop is more ſubject, in its firſt growth, to that miſchievous inſect the dolphin fly, which in dry ſeaſons, is often as fatal as thoſe that infeſt turnips.

If the ſoil is but indifferent the farmer ſhould chuſe the common horſe bean, which, though inferior to the tick, will thrive with leſs nouriſhment.

ment. If he chuſes to meddle with the garden beans, the Hotſpur, Toker, and Sandwich are the beſt kinds; or if his ground be very rich and well ſheltered, he may uſe the Broad Windſor.

Whatever kind of bean is choſen, there will be a great advantage in ſteeping it, the beſt method of doing which is thus: Put into a large tub three pecks of dry ſheeps dung, two pecks of pigeons dung, a buſhel of the dung of common fowls, and a buſhel and a half of very old and well rotten horſe dung, from a good old dunghill; ſtir them well about with a birch broom, and let the whole ſtand together twelve hours, repeating the ſtirring of it once in an hour; then let it ſettle, and draw off the liquor into another veſſel through a ſieve. Into this put as many beans as it will cover, and let them lie twenty-four hours; then take them out, and plant them immediately.

The moſt proper time for ſowing horſe beans is the middle of February, the common ſort a little ſooner then the tick bean; but that ſhould never be out of the ground longer than the end of the ſame month, in the coldeſt grounds; and in thoſe which are a little warmer, not ſo long.

Various are the methods uſed by different farmers in putting them into the ground. The favourers of the new huſbandry prefer the horſe-hoeing diſtance; but, in the common courſe, they may be either ſown by broad caſt, or planted by hand. The coarſe way of ſowing ſeems moſt allowable when the common horſe bean is ſown, and that upon ground which does not allow any great proſpect of abundance in the crop; but when the tick bean is uſed, and the ſteeping method followed, they ſhould be planted by hand.

The beſt method of ſowing them by random is this: Chuſe the ſoundeſt and beſt beans of the common kind, and take four buſhels and a half for every acre. Plow up the land carefully, and about the fourteenth of February ſow the beans by broad caſt, going twice over a place, and plow them in. This makes ſhort work of the article of ſowing, nor do theſe beans need ſteeping. Thus let the ground lie, till the beans begin to ſhew themſelves above the ſurface. By this time there will alſo appear the firſt ſhoot of the weeds; and the ground is then to be harrowed, which will at the ſame time anſwer the natural purpoſe of harrowing for the beans, and will deſtroy this firſt crop of weeds. A ſhort toothed harrow muſt be uſed for this purpoſe, and the work is to be done with care, not to tear up the beans. Let the ground lie thus three days, and when it has taken in the benefit of the air and dews for its new broken ſurface, bring on a heavy roller and go carefully over the whole field. This preſſes down the mould which the harrow had broken, and which the weather has in thoſe few days mellowed; and the roots of the beans are well fixed by it. At the ſame time the ſurface is laid level for the time of mowing. A ſcythe will take ſuch a field entire with the greateſt eaſe and regularity. After this, provided the ground has been tolerably clean, there will not be any growth of weeds of great conſequence. If otherwiſe, and they appear rank, it will be beſt to allow one good weeding, not only for the ſake of the crop, but the future advantage of the ground.

If the land is exceeding good, and the tick bean is choſen, they ſhould be planted by hand. This is to be done by means of a ſetting ſtick, which is called a dibble. It ſhould be made of the handle of an old ſpade, cut off eight or ten inches below the hole, and pointed with iron; which latter part ſhould be notched upwards in the manner of beards to prevent the hole being too ſmooth at the ſides. For this purpoſe the ground is to be plowed light and hollow, and the beans, freſh from the ſteeping, are to be given to the people employed in this work. Then a gardener's line being ſtretched within a foot of the edge of the field, they are to be directed to plant along that, opening a hole with the dibble at every ſix inches, and dropping in a bean. When they have gone the length of the line they are to carry it ſtraight forward till they have made one compleat row at a foot from the edge of the field: and then they are to ſtretch it again at eighteen inches diſtance from the firſt row, and there plant another. Thus the whole field is to be planted in rows at eighteen inches diſtance, and with the beans at ſix inches diſtance in the rows. Great care muſt be taken in the planting, that all the beans be let in nearly at the ſame depth, which ſhould be about three inches; and that the hole be made with one ſtroke of the dibble, jobbing it ſtraight down and pulling it lightly up again; for if it be turned in the hole, or preſſed on any ſide, it makes the mould cake there, and the roots of the young beans cannot pierce it. The ground is to be all harrowed over immediately after ſowing; and this covers up the beans regularly.

When the beans juſt ſhew their heads above the ground, the whole field ſhould be rolled: this fixes the mould to their roots, and levels the ſurface for the mowers; and at the ſame time it cruſhes, in ſome degree, the light rooted ſeedling crop of weeds. When the beans are half a foot high, the whole ground ſhould be hand-hoed; and this muſt be repeated when they begin to pod. The expence will be abundantly anſwered by the great produce, and the ground will be in excellent condition for another crop.

Having thus deſcribed the common method of huſbandry in raiſing beans, we ſhall now proceed to that of the drill, which has been ſo improved as to be alſo capable of ſetting them expeditiouſly and regularly.

The moſt convenient way of uſing this is by chuſing a dry day, when rain is to be expected very ſoon; but when the ſeaſon is not ſo favourable as to allow of this, it is ſtill a very good method to plant them in regular drills, opened by a common foot plough with a picked ſhare. The ground muſt be in good tilth, and when the drills are thus made at a moderate diſtance, the ſame plough is to be drawn back between them. This turns up the mould, and, leaving a hollow, makes it eaſy work to cover the beans in the drills. The beſt diſtance of the rows in this diſpoſition is three feet; and they are therefore eaſily kept clean afterwards. The garden beans of the largeſt kinds may be raiſed very ſucceſsfully by the ſame method; and in either caſe the crop is eaſily managed, and the ground will be left in good condition afterwards.

When beans and peaſe are ſown together it ſhould be done by the broad caſt way, going twice over a place. The ground ſhould have two plowings, to make it looſe to receive them, and they ſhould then be plowed ſhallow in; after which the harrow muſt be brought over the ground, and after the roller. When the plants begin to appear, the reſt of the management muſt be the ſame as in lands ſown by the broad caſt way with beans alone.

Thoſe who may chuſe to ſow the mixed ſeeds more regularly may do it by means of a foot plough, opening drills for them at a yard diſtance, and then covering them up with the hand hoe; for they cannot be drilled out of any drill box together, becauſe of the different ſize of pea and bean.

This method of ſowing them in drills will give room for culture while they are in the ground, and the field will by that means alſo be cleared from weeds, and well prepared for the following crops.

At the time of harveſt beans are to be cut with a hook, or mown with a ſcythe, according to the different manner in which they are ſown. The laſt is the ſhort way, and will anſwer beſt of all upon lands ſown in the promiſcuous manner, and which have been well rolled in Spring. When they are drilled or planted in rows, the hook anſwers beſt. Whichever way they are cut, they muſt be carefully cured upon the ground; for often long keeping brings a large price; and where they are well dried at firſt there is little danger of this. They ſhould be two days and a half upon the ground without turning; then they ſhould be turned, and thrown upon a dry part of the field. If any wet falls, they muſt lay till it is dried off, before they are turned again; and they ſhould never be moved while wet with the dew: they muſt be always thrown up hollow, that the wind may play among them; and they muſt in this manner be turned from time to time, till the whole ſtalk, as well as pods, is nearly dried.

When they are thus hardened, they are to be raiſed up in moderate bundles to perfect the drying. The method is, to gather the ſtalks in even parcels, and tie them round the middle, and then ſet them up at equal diſtances over the field. After this they ſhould be very carefully ſtacked, and kept till wanted. They may be kept alſo threſhed, and this way lie in a ſmall compaſs: they are in ſome places put up in four-buſhel ſacks, and theſe, being ſet out of the way of vermin, will keep good till there is a demand for them.

Garden beans are of various ſorts, but that which is generally cultivated, and allowed to be the beſt of all others for the table, is the Windſor bean. When theſe are planted on a good ſoil, and are allowed ſufficient room, their ſeeds will be very large and in great plenty; and when they are gathered young, are the ſweeteſt and beſt taſted of all others. The ſeeds of theſe ſhould be carefully ſaved, by pulling out ſuch of the plants as are not perfectly ripe, and afterwards by ſorting out all the good from the bad beans when they are out of the pods.

This ſort of bean is ſeldom planted before Chriſtmas, becauſe it will not bear the froſt ſo well as many of the other ſorts; it is, therefore, generally planted for the great crop to come in June or July.

Thoſe beans which are planted early in October, will come up by the beginning or middle of November; and as ſoon as they are two inches above the ground, the earth ſhould be carefully drawn up with a hoe to their ſtems; and this muſt be two or three times repeated, as the beans advance in height, which will protect their ſtems from the froſt. If the Winter ſhould prove ſevere, it will be very proper to cover the beans with peaſe haulm, fern, or ſome other light covering, which will ſecure them from the injury of the froſt: but this covering muſt be conſtantly taken off in mild weather, otherwiſe the beans will draw up ſo tall and weak as to come to little; and if the ſurface of the border be covered with tanner's bark, it will prevent the froſt from penetrating into the ground to the roots of the beans, and be of great ſervice to protect them from the injury they might otherwiſe ſuſtain.

When the beans are advanced to be a foot high, they ſhould be faſtened up to the hedge with packthread, ſo as to draw them as cloſe as poſſible; which will ſecure them from being injured by the morning froſts, that are often ſo ſevere in April, as to lay thoſe beans flat on the ground which are not thus guarded: at this time all ſuckers which come out from the roots ſhould be very carefully taken off, for theſe will retard the growth of the bean, and prevent their coming early. When the bloſſoms begin to open toward the bottom of the ſtalks, the top of the ſtem ſhould be pinched off, which will cauſe thoſe firſt pods to ſtand, and thereby bring them forward. But leſt the firſt crop ſhould be deſtroyed by froſt, it will be abſolutely neceſſary to plant more about three weeks after the firſt, and ſo to repeat planting more every three-weeks or a month, till February; but thoſe which are planted towards the end of November, or the beginning of December, may be planted on ſloping banks, at a diſtance from the hedges; for if the weather ſhould prove mild, theſe will not appear above ground before Chriſtmas; therefore will not be in ſo much danger as the firſt and ſecond planting, eſpecially if the ſurface of the ground is covered with tan, to keep the froſt out of the ground. The ſame directions which are before given, will be ſufficient for the management of theſe; but only it muſt be obſerved, that the larger beans ſhould be planted at a greater diſtance than the ſmall ones; as alſo, that thoſe which are firſt planted muſt be put cloſer together, to allow for ſome miſcarrying; therefore when a ſingle row is planted, the beans may be put two inches aſunder, and thoſe of the third and fourth planting may be allowed three inches; and when they are planted in rows acroſs a bank, the rows ſhould be three feet aſunder. The principal care in the management of the latter crop of beans ſhould be to keep them free from weeds and other plants, which would draw away their nouriſhment; to keep earthing them up, and when they are in bloſſom, to pinch off their tops, which, if ſuffered to grow, will draw the nouriſhment from the lower bloſſoms, and thereby prevent the pods from ſetting, ſo that only the upper parts of the ſtems will be fruitful.

Another thing alſo ſhould be obſerved in planting of the ſucceeding crops, namely, to make choice of moiſt, ſtrong land, for the latter crops; for if they are planted on dry ground, they rarely come to much, unleſs the Summer proves wet.

Theſe latter crops ſhould be ſucceſſively planted about a fortnight after each other, from February to the middle of May, after which time it is generally too late to plant, unleſs the land be very ſtrong and moiſt; for in warm, dry, light land, all the latter crops of beans are infeſted by black inſects, which cover the upper part of their ſtems, and ſoon cauſe them to decay.

When the ſeeds of the beans are deſigned to be ſaved, a ſufficient number of rows ſhould be ſet apart for that purpoſe, according to the quantity deſired; theſe ſhould be managed in the ſame way as thoſe which are deſigned for the table: but none of the beans ſhould be gathered. When the ſeed is ripe the ſtalks ſhould be pulled up, and ſet upright againſt a hedge to dry, obſerving to turn them every third day, that they may dry equally; they may then be threſhed out and cleanſed for uſe, or otherwiſe ſtacked up in a barn, till there is more leiſure for threſhing them out; and afterwards the ſeed ſhould be drawn over, to take out all thoſe that are not fair, preſerving the beſt for ſowing, and the ordinary for feeding cattle.

It is eſſentially neceſſary to change the ſeeds of all ſorts of beans, and not to ſow and ſave them long in the ſame ground, for they will not ſucceed ſo well. If therefore the land be ſtrong when they are to be planted, it will be the beſt way to procure ſeeds from a lighter ground; but if the land be weak, from a ſtronger; for by this means the crops will be larger, the beans fairer, and not ſo liable to degenerate.

CHAP. XVII.

Of Peaſe.

PEASE have the advantage over beans in the farmer's conſideration, in that there are but few lands that agree well with the bean; but one or other kind of the pea will ſuit any. The pooreſt will produce very good crops, when the kind of pea is well ſuited to them; and from ſuch as are better there will be great abundance.

To direct the farmer rationally in his choice of ground for theſe crops, we muſt firſt explain to him the more uſual kind of peaſe for the field culture.

The firſt and moſt general of theſe is the Windſor Grey. This is larger and of a blue-grey colour, hardy enough to admit of early ſowing, and will always thrive where there is a good hold for its roots, and ſome moiſture. Lomes are the beſt ſoil for this ſort, and in ſuch of theſe as are ſtiff and moiſt, it will bear a vaſt quantity.

The Horn Grey is a new pea among the farmers of many counties, but it is now getting into great repute for its hardineſs. This pea is large and firm, and in colour paler than the Windſor. It will grow upon light ſandy lome and produces great increaſe. This fattens and perfects the hogs as well as the Windſor Grey.

The Cobham pea is another of the large grey kind, and is ſuperior to the Horn Grey and Windſor, but is tenderer than either of them. It requires a fine and good ſoil, the more like garden ground the better; and this muſt be well prepared, and it muſt be ſown late. Theſe are diſadvantages to the farmer, but its great bearing, and the excellence of the pea itſelf, make amends; and when he has a rich black mould for a pea crop, this will be his beſt choice; it will yield a vaſt abundance, and will leave the ground better than it was.

The large white hog pea, cultivated in ſome parts of Hertfordſhire, and which they call the Purlan Pea, is one of the Cobham kind, but different from the former, in that it bears a very ordinary ſoil, and will yet yield a large increaſe.

The Iron Grey pea is a very hardy one, of a duſky colour, and thick coat. It will grow on chalky or white poor land, where the other pea crops fail; though its moſt favourite ſoil is a rich lome.

Theſe are the kinds of peaſe principally in uſe, from one or other of which the farmer may raiſe a good crop upon any ſort of land. In general, the leſs the land has been manured, the earlier the peaſe will ripen; but the richer it is, the greater will be their produce.

The uſual and proper general time of ſowing peaſe is February; and according to their kinds, and the nature of the ſoil, they may be ſown at that ſeaſon various ways. Some prefer the ſowing promiſcuouſly, according to the old method of huſbandry; others are altogether for planting them in rows; and this laſt, as well as the former, is done various ways, and with different diſtances between the plants, whether by the ſpaces left between the rows in regular planting, or the greater or leſſer allowance of ſeed in the promiſcuous ſowing.

But whatever way the farmer uſes he ſhould have regard to the bigneſs of the pea, for this is very various in the different kinds, ſo much as to occaſion double the quantity of ſeed in the ſmaller kinds, though they are alſo much more numerous in the ſame meaſure in the common way of ſowing: two buſhels, or two and a half to an acre, is enough of the largeſt kinds, for the biggeſt peaſe make the largeſt plants; of the middling ſize three buſhels may be allowed, and of the ſmalleſt, four.

Thoſe peaſe which are late ſown ſhould have the benefit of ſteeping; this muſt be done in the ſame manner as directed for the beans, only omitting the pigeons dung. It will give them a ſtrong firſt ſhoot, and they will afterwards make good their growth much the better for it to the harveſt.

One way of ſowing the field peaſe is by throwing them by broad caſt on the ground, rough as the plough left it; but this is the worſt of all. When any thing like this is intended, as it may be very proper for a hardy pea in a light land, it is better to ſow by the broad caſt, and plow it in. The covering is thus thicker; and it is required for the peaſe ſown ſo early as theſe kinds are.

There is a peculiar kind of rake uſed in ſome places for ſowing peaſe, the tines of which are long enough to open drills; and as from its make, ſeveral of theſe are opened at a time, the work is done very expeditiouſly. The ſtructure of this is like that of the common garden rake, only the croſs piece is thicker, and the tines are few and large, five is the beſt number. The ground being in very good order, the drawing theſe tines opens ſo many drills, into which the peaſe are dropped, by thoſe who follow the perſon that draws it; and they are afterwards covered with a ſhort tined harrow. The ground muſt be light and in good order for this, otherwiſe it will not open the drills with any regularity.

In other places they make the ſame kind of inſtrument with the teeth ſtrait down from the handle, and uſe it for peaſe as they do the ſetting ſtick or dibble for beans. One perſon ſtrikes it into the ground, and another following him, drops a pea into the hole. A light harrowing then covers them, and levels all the ſurface. Probably in this way, if two peaſe were dropped into every hole in the place of one, the purpoſe would be better anſwered, as the two would give nearly a certainty that there ſhould be no miſcarriage in any of the holes.

Whichever way peaſe are ſown, the field will require to be weeded ſoon after they are above the ground; otherwiſe they will be ſtarved in the firſt ſhoot, and overpowered by the weeds. This is as neceſſary in the promiſcuous way of ſowing as any other, though it is performed with great difficulty. The hoers muſt take care not to tread down too much of the crop; and they muſt not only hoe up the weeds, but judiciouſly thin the peaſe themſelves where they have riſen too thick.

The ripening of the peaſe in their pods is to be carefully watched, for upon that will depend the reaping them at a proper ſeaſon; and this is a very eſſential article in the value of them. When the peaſe are very healthy, there is an appearance of part of their juice in the manner of that upon ripe plumbs, which covers the ſtalk with a kind of blue mould; and if it goes off as the pods begin to form, there is reaſon to expect a large crop. In thoſe peaſe which are raiſed for the table, the garden cuſtom muſt be obſerved, of gathering the pods as faſt as they ripen; but in the field, or hog pea, the farmer is to watch the beſt time of cutting the whole crop at once, when there is moſt upon it; that is, he muſt take it when moſt of the pods are ripe, and none fallen. This is the time for cutting; for if he ſtays till ſome are ſhed, a great many more will be ſhed before he is aware, and the loſs will be much more than thoſe unaccuſtomed to theſe things can imagine: on the other hand, if he cuts them when they ſeem in general not ripe enough, they will in ſome manner ripen upon the ground. He is to obſerve when the greateſt part are hardened, and yet the pods of the ripeſt are not burſt, or but beginning to burſt, and this is the true time for cutting them.

The beſt method of reaping peaſe is by the hook: this ſhould be faſtened to a long handle, and the edge muſt be kept ſharp. There is ſome trouble in managing them when they grow promiſcuous, but when they are in regular rows, whether ſown by the drill-plough, or planted by the inſtrument already named, the plants ſtand ſo regularly that the reaping may be done with great expedition. This is of importance not only as to the ſowing in price of labour, but for the advantage of the crop; for when the peaſe are ripe enough to cut, the ſooner that is done the better. The pea requires to lay ſome time upon the ground; but it ſhould lay in heaps, not ſpread. It is eaſy to gather them into theſe ſmall heaps as they are reaped, and throw them up hollow, that the wind may blow in and dry them. If the heaps be carefully thrown up at firſt, they will need no turning, which is a great advantage, becauſe peaſe are very apt to ſhed in moving. When they have lain till thoroughly dry, they muſt be carried in, taking the greateſt care to move them gently to prevent loſs. If it happens to be wet weather when the peaſe lay out, they muſt not be turned, but ſuffered to remain to dry again; for their laying in heaps will ſave them from much damage. The beſt way of keeping them is out of doors in a ſtack; for when they are houſed they ſeldom preſerve a good colour.

In ſeveral parts of the kingdom the farmers have now a method of ſowing peaſe, beans, and oats together in one field; but the ſeed muſt be put in at different times, or it will not ripen together. The mixture being convenient in many caſes, we ſhall give the beſt method of doing it.

Plow up a barley-ſtubble, and then ſcatter three buſhels of common horſe-beans by broad-caſt over the ground; plow theſe in, and let the ground lay ſixteen days; then ſow the oats and peaſe, allowing alſo two buſhels of each to the acre. Harrow theſe in; and the ſame harrowing will alſo anſwer for the beans. The oats will ripen at harveſt time, a little before the peaſe and beans, and this muſt be the mark of the ſeaſon for cutting them; for if the farmer was to wait for the ripening of the peas and beans, the oats would be ſhed; whereas, if he cuts the whole when the oats are juſt ſafe from ſhedding, the beans and peaſe will ripen with lying, and the whole crop will yield an excellent food for the horſes. They may be all threſhed together; and being afterwards mixed with the chaff, they go a great way, and are very wholeſome for feeding of thoſe horſes that do common work.

Having thus directed the beſt method for cultivating peaſe in the field, we ſhall proceed to make ſuch obſervations as may be of uſe for obtaining thoſe in the garden.

The diſtance between the rows ſhould be proportioned to the ſize to which they grow. The channels in which they are ſown ſhould be about two inches deep; and the quickeſt and moſt regular way to perform this work is, to draw a ſmall hoe, directed by a line, along the ſurface of the ground, ſo as to open a drill, then to ſcatter the ſeeds in this furrow, and to earth them over with the help of a rake. By this means they will be well and equally covered; which is eſſentially neceſſary, becauſe if any of them lie above ground, they will attract mice, rooks, pigeons, and other birds, which will then ſoon find out the reſt, and deſtroy the whole plantation. The principal trouble after ſowing them is, to ſtick the larger ſorts which require ſupport, to keep the plants clear from weeds, and to earth them up; both which laſt parts of their culture are very eaſily, readily, and effectually executed, when a ſmall plow can be introduced between the rows.

Among the various ſorts of peaſe, the Hotſpur is naturally the earlieſt of all; but the gardeners about London raiſe by art, from the dwarf pea, tranſplanted into a hot bed, a crop which anticipates the ſpontaneous growth of the other. To effect this, they ſow their dwarf peaſe in warm borders, under walls or hedges, about the middle of October, and when the plants are riſen, they draw the earth up gently around their ſtems, to protect them from the froſt. They let them remain where they were ſown till the latter end of January, or the beginning of February (ſtill continuing to earth them up from time to time, as they advance in growth, and covering them with dry haulm, or ſtraw, in caſe of ſevere froſt) and then remove them into a hot-bed made of good, new, well fermenting dung, properly mixed, that the heat may not be two great.

This dung is laid from two to three feet thick, according as the ſeaſon is more or leſs advanced; it is covered with ſix or eight inches deep of light and freſh, but not too rich, earth; the frames, about two feet high at their back, and fourteen inches deep in front, are then put on, and covered with their glaſſes, which are propped up every day, during three or four days, to let the riſing ſteam paſs off; and when the bed is become of a moderate temperature, the plants are taken up as carefully as poſſible, to preſerve the earth about their roots, and planted in it about an inch aſunder in rows, two feet diſtant from each other. They are then watered a little, and ſhaded, till they have taken root, and aired whenever the ſeaſon is favourable, leſt they ſhould be drawn up very weak, grow mouldy, and decay. Their ſtems are alſo earthed up as they advance in height, and they are kept perfectly clear from weeds. This firſt watering ſhould be gentle, and dealt out ſparingly; for too much of it would make them grow rank, and ſometimes rot them off at their ſhanks, juſt above the ground. If the weather becomes very hot, the glaſſes are covered with mats in the day-time, to ſcreen the plants from the too great violence of the ſun; and when they begin to fruit, they are watered oftener and more copiouſly than before; for they have nearly done growing by that time, and refreſhing of them frequently will make them produce the greater number of pods.

For this purpoſe the dwarf pea is greatly preferred, becauſe it is more eaſily confined within frames than any other ſort. The reaſon for ſowing it in the common ground, and afterwards tranſplanting it into a hot bed, is to check its growth, and thereby make it bear the more in a ſmaller compaſs.

Theſe peaſe muſt be likewiſe ſown in warm borders about the end of October. When the plants are a few inches high, they ſhould be earthed up to defend their ſtems from froſt; and if the Winter be very ſevere, they ſhould be covered with haulm, or ſome other light coverings, but this muſt be taken off as ſoon as the weather grows mild, leſt it ſhould draw them up weak and tender; and the weeding and earthing up muſt be repeated as they advance in growth, but with care not to bury their leaves, as it may poſſibly rot their ſtems, eſpecially if the ſeaſon be wet. Both theſe works muſt be very carefully performed in the Spring; and this is likewiſe the moſt proper time to kill the ſlugs, which, of all vermin, do the greateſt injury to peaſe.

If this crop does well, it will immediately ſucceed that of the dwarf pea on the hot bed; but leſt it ſhould miſcarry, it will be right to ſow two other crops, at the diſtance of about a fortnight or three weeks from each other. Theſe will ſuffice till the Spring, when more crops of the ſame ſort may be ſown every fortnight, and by this means the early peaſe will be continued through the ſeaſon.

About the middle of February, ſome of the Spaniſh Morotto, which is a great bearer, and a hardy pea, may be ſown in a clear open ſpot of ground, for the next uſe of the family. The rows of theſe, which are a larger kind, ſhould be four feet aſunder, and the peaſe ſhould be dropped at about an inch from each other in the drills.

To ſucceed theſe, another ſpot of ground ſhould be ſown about the end of February, either with the ſame, or any other large ſort of pea; and theſe ſowings ſhould be continued every fortnight, till the middle or latter end of May; only obſerving to allow diſtances proportioned to the ſize of the pea at its full growth. Thus marrowfats, for example, ſhould not ſtand nearer than four feet and a half from row to row, and the roſe pea ſhould be at leaſt eight or ten inches aſunder in the rows: for all peaſe, if they are too much crouded, will run up in height, and yield but little fruit.

When theſe larger ſorts of peaſe are grown about eight or ten inches high, ſtick up ſome bruſh wood cloſe to them, to prevent their trailing upon the ground, which is very apt to rot theſe kinds in particular, eſpecially in wet ſeaſons. By this means there will alſo be proper room to hoe between the rows, and to gather them with convenience when they are ripe.

Of all the large kinds of peaſe, the marrowfat is the beſt taſted, and it will continue good till the end of Auguſt, if it be planted in a ſtrong ſoil. The other large growing ſorts may be raiſed for the common uſe of the family, becauſe they yield the moſt plentifully, and can endure the greateſt drought: but the early kinds are by far the ſweeteſt. It will therefore be well worth the maſter's while to ſee that a crop of theſe, and particularly of the early hotſpur, is ſown every fortnight, to ſupply at leaſt his own table during the ſeaſon.

All the dwarf peaſe yield plentifully, if the weather be not too dry; but they ſeldom continue to bear long. As they rarely ſurpaſs the height of one foot, or ſpread wider than ſix inches, about two feet and a half may be a ſufficient ſpace for weeding and ſtirring of the ground between their rows, in which they need not be ſet above an inch aſunder. Among theſe may be claſſed the ſickle pea, or ſugar pea, which is much cultivated in ſeveral foreign countries, but is ſeldom propagated here, except by curious gentlemen for their own table. The pods of this pea are crooked and illſhaped, but extremely ſweet when boiled with their unripe fruit in them, as is the general way of dreſſing them; for they have not any tough in-fine ſkin, like the pods of other peaſe. If they are planted in April, they will be fit for gathering at Midſummer. Their pods, when they are very young, and their tendrils, have an agreeable acid flavour in ſallads; as have alſo the young tendrils of the hop and the vine.

One general rule to be obſerved in the planting of all kind of peaſe is, that the later they are ſown, the ſtronger and moiſter muſt be the ſoil.

CHAP. XVIII.

Of Tares.

TARES are of two ſorts, viz. the white and the black. Theſe are named after the colour of the ſeeds, and have little other difference; they properly are only ſeminal varieties of the ſame ſpecies; the white tare riſing originally from the ſeed of the black, as the common blue and red flowers of many kinds in our gardens will occaſionally yield ſuch as are white. In the ſame manner the firſt variation in this kind of tare is, that the flower is white, whereas it is purple in the other; and the ſeeds afterwards are of the ſame colour. Either of theſe may be ſown in fields, and they will anſwer the ſame purpoſe; but the common or black tare is the hardier kind, and the beſt bearer.

There may be a great advantage in the ſowing of tares properly, among the variety of articles with which the preſent practice of huſbandry gives the farmer an opportunity of varying his crop. They excellently prepare the land for corn, and their produce is of a certain and not inconſiderable price, being the proper food of pigeons, and uſeful for many other purpoſes.

The tare is a hardy product, approaching to the nature of a weed; and it will therefore grow either on land naturally poor, or ſuch as is exhauſted: this is what makes the farmer find his principal advantage in its culture; for it not only thus ſtands in the place of barrenneſs, but prepares the ground for better crops.

Notwithſtanding moſt ſoils will do for the tare, yet, like all other plants; there are ſome that it affects more than others. This is a material conſideration to the huſbandman. The great variety of articles of late years introduced into his profeſſion, gives him an opportunity of varying the crop on every occaſion, and among theſe inferior as well as among the richer kinds, he will find a double advantage in a prudent choice, which is moſt ſhewn in ſuiting the ſpecies to the nature of the ſoil.

The moſt favourable land for tares is a good ſandy lome. They will ſucceed excellently on mellow earth, if not too moiſt for them, which is a very common inconvenience in that ſort of ground. They will ſucceed very well on ſandy ground, that is not rich in any reſpect; and we ſee great crops of them in the lime-ſtone countries, and that frequently where there is very little depth of ſoil.

The worſt ground for the tare is a tough wet clayey ſoil. In Hertfordſhire, where a great quantity are raiſed, they find them always ſucceed better on the hilly grounds than in the vales.

The ſoil and ſituation being thus fixed upon, there requires little care in the making it ready for the reception of the ſeed. By this choice, we do not mean to tie the farmer down ſo ſtrictly, as that nothing elſe will do but ſuch a field as we have deſcribed, but when it happens that he has the choice of two or three, and one of them anſwers this character better than another, he ſhould take the beſt.

We will ſuppoſe the field where they are to ſtand has been pretty well exhauſted by the laſt crop of corn. In this caſe no preparation by manure, or repeated tillage is wanted; all that is needful is to plow in the ſtubble, which muſt lay till it rots, and in Spring to open the ground for the ſeed. Theſe kinds of crops are ſo far from demanding manure, that they ſerve as manure to the land themſelves; and of them all none more than this ſpecies.

When the land is ready, the next thing is to take care of the ſeed, and in this the huſbandman ſhould not be negligent: a little care coſts nothing, and it enſures a profitable crop.

Let the ſeed tares be bought or purchaſed by exchange from ſome farmer, at ten or twelve miles diſtant. The advantage and uſe of this, in all ſeeds, has been ſhewn already; and let the farmer who is to ſow them, take care to purchaſe ſuch as have grown on a different kind of ſoil from his own.

Thus, if this field be mellow earth let him chuſe the ſeed tares from a loamy or ſandy ſoil; and on the contrary, if it be ſandy let him chuſe the ſeeds from one that is otherwiſe.

Thoſe tares are in general beſt for ſowing that are of a middle ſize, round, full, and plump, of a ſmooth and bright ſurface, and heavy. There is reaſon the huſbandman be careful in his choice, becauſe few ſeeds are ſo apt to ſpoil; and all pains are thrown away upon land where there is a defect in the ſeed.

The tare does not grow well unleſs it has been full ripe when gathered; and if it has ſuffered wet in the keeping, it loſes a great deal of its vegetative power. Theſe are the two accidents the farmer is moſt to fear, and he will be guarded againſt them by the rules we have given for his choice. Such tares as have been gathered before ripe, never get that roundneſs, fullneſs, or weight we have recommended;

commended; and if they have been damp ſo as to receive damage, they loſe that gloſſy ſurface which they will never again recover.

The ſeed being thus choſen, the quantity is next to be conſidered; and this the common practice comes nearer what is right, than in moſt other ſeeds. The general error is the ſowing too much, and what miſtake there is, is on the ſame ſide here, but it is not great, above five pecks are generally allowed to the acre, but a buſhel is fully ſufficient: three pecks will be very well.

There is a greater crop from a few flouriſhing plants, than from a great number which ſtarve one another.

The beſt time for ſowing them is in the middle of February. Very little trouble need be taken about them, for the moſt ſlight ſtirring of the ground is ſufficient; but of one thing the huſbandman muſt take eſpecial care; which is the finiſhing what he undertakes in this way without delay. There muſt never be more ſown in a day than can be well covered before evening; for if they lie expoſed to the dews of the night, they contract a damp that decays a great part of them; and the reſt will never come to their proper perfection.

In general, a poorer is better than a more rich land for tares. In the former they pod well; in the latter, they are apt to run into ſtalk and leaf with leſs bearing. There is alſo another misfortune attending the ſowing of tares on rich ground, eſpecially if it be a little moiſt, which is, that they are more ſubject to lie upon the ground, becauſe of the weight of the ſtalk, and then they rot.

The farmers of Eſſex, and ſome other counties, have a method of ſowing tares and horſe beans together; they thrive tolerably well in this way, but they do better ſingly. There is no difficulty attending the reaping of them, for they may be very well cut together, when ripe, as they will be about the ſame time; and the different ſizes of the bean and tare make them eaſily ſeparated in the barn by a riddle.

The crop being in the ground will require no farther care of the farmer, for they will ſhoot quickly, and grow vigorouſly. There are two ſeaſons of cutting them, the one for the ſtraw, as it is called; that is, for the green plant, for the food of cattle; and the other for the ſeed.

The firſt may be continued at different times for ſeveral weeks, and it is a very wholeſome and profitable food; the other is only to be done at one time, that is, when the tares are ripe in the pods; and for the knowing the exact period for this, the tare is to be watched in the ſame manner as the pea.

The cutting them for fodder is often the moſt important ſervice they can be put to; as to the letting them ſtand for ripening, it is for ſeed, or for food for pigeons; but as when the farmer keeps any quantity of theſe, as he muſt either raiſe or buy tares, this is a conſiderable article.

If a favourable ſeaſon follows the time of ſowing the tares, they will be fit to cut in May for foddering cattle in the rack; and, upon occaſion, they may before that time ſerve for feeding freſh in the field.

The great advantage of all theſe crops of ordinary pulſe is, that they cover and ſhade the ground. The tare being larger than ſome of the others, ſerves this purpoſe better than they, and its ſeeds, or the ripe tares being of uſe, is another advantage, becauſe it may be kept longer upon the ground. For this reaſon, though the farmer may occaſionally cut his tares green, yet I adviſe him, when he would give the ground the greateſt advantage from them, to let the whole crop ſtand till ripe. In this caſe the entire field is covered for a very conſiderable time, there are no weeds ſuffered to grow in it, and the whole is mellowed by lying under the covert of the ſtem and leaves of the tares, while their roots draw but little nouriſhment to impoveriſh it. The tares being then obſerved from time to time as they ripen, are to be reaped at the period when they are fulleſt of rich pods; and then left to dry in the field in little heaps, before they are carried home for getting out the ſeed.

When they are dry enough, if the weather be good, that is, dry and hot, they may get the laſt hardening, by ſpreading on a floor, and ſeveral times turning of them; but if the ſeaſon does not admit of this, they muſt be dried upon a kiln with a very moderate heat; for when they are put up damp, they always get muſty and ſo loſe their power of growth, as to be neither fit for food nor ſeed.

When they are once properly dried, the beſt way is to thraſh them and put them up clean; for if they are kept in the pods they will be always ſubject to accidents; but if they are well put up in barrels in a dry cool ſituation, they will be preſerved from all danger, and may be kept to any length of time.

CHAP. XIX.

Of Thetches.

THESE are likewiſe of the pulſe kind, and as they will thrive well in a damp ſoil, ſo they are more uſeful to the farmer, who may want to improve a wet piece of tillage ground with ſmall pulſe; for the tare would not ſucceed in this ſort of ground. The beſt ſoil for the thetch is a black mould, and it will thrive better after barley than any other grain.

There are two ſorts of thetches, viz. the Winter thetch and the Summer thetch; the former ſhould be ſown in October, and the latter in February. The land will require no other preparation than once plowing. If the Winter thetch be ſown in the beginning of October, it will be high above the ground in the beginning of Spring, and may either be mowed, or eaten on the ground, whichever the farmer may think moſt beneficial. The feeding on the ground has the advantage of improving the land by the dung of the animals which feed upon it; but the mowing will make the crop laſt much longer. The Summer thetch will be fit for mowing the firſt week in June; or if there be occaſion for it earlier, it may be eaten on the ground in the beginning of May.

When the ground on which the thetch is to be ſown is tough and clayey, the ſeed ſhould be ſcattered on ridges, and plowed in, and harrowed over afterwards; but if the earth be mellow, it is beſt to ſow them in broad lands with a ſingle plowing, and harrow in. This different method of ſowing ſhould in ſome degree direct the manner of uſing the crop; for when the thetch is ſown on ridges, as it will be difficult to mow, it ſhould be eaten on the ground; whereas, when it is ſown on broad lands, and is therefore regular in the growth, and eaſy to be mowed, the beſt way by far is that: becauſe the produce of fodder is much larger as the crop is, and the land has the more benefit.

Three buſhels of ſeed ſhould be allowed to the acre, for the more the ground is covered by a multitude of ſtalks, the more advantageous it will be to the farmer. Theſe crops will take care of themſelves; but as here muſt be ſeed ſaved for exchange, and to keep up the crop, the drieſt and warmeſt part of the ground is fitteſt for ripening the ſeed, and a quantity of the plants on ſuch a ſpot muſt be reſerved for it. This muſt be conſidered at the time of ſowing, and ſuch a ſpot being ſelected, the ſeed ſhould be ſown there but in half the quantity, in proportion to the reſt of the field. When the plants are come up, they ſhould be cleaned and thinned in this part by hoeing, and if cattle are turned in to feed upon the ground, this ſpot muſt be fenced off from the reſt.

When the pods are ripe, the thetches are to be cut with pea-hooks, and thrown up in ſmall heaps to dry; after which they are to be carried in and ſpread upon a dry floor with a thorough air; and this will make them in a few days fit for thraſhing. The ſeed afterwards ſhould be again ſpread on the floor, and, when hardened, put up for uſe.

When the crop is off the ground, wheat or any other corn will thrive excellently upon it; or if the farmer chuſes a turnip crop, there is no ground on which it will riſe in greater perfection. Coleſeed which is another plant of the turnip kind, always ſucceed peculiarly well after thetches.

If the Spring thetches, which have been ſet aſide for ſeed, do not ripen their pods in ſuch good time as might be expected, the farmer need not be uneaſy; for they will ceaſe growing on the decline of heat in Autumn, and then the ſeed will ripen in a few days.

The green thetch is the moſt wholeſome of all other food for horſes. Cows feed on it with pleaſure; and it not only makes them yield a great deal of milk, but the moſt excellent of its kind. The ewes, while lambs follow them, thrive better upon the thetch field than almoſt every other food; and the lambs will ſhew, by their good condition, that it has the ſame effect on their dams, as on the cows, making them yield excellent milk in great abundance.

CHAP. XX.

Of Rape or Cole-ſeed.

THE moſt proper ſoil for this plant is a rich deep mould, ſuch as in the fens in Cambridgeſhire and Lincolnſhire. Low meadow lands that can be made and kept dry, yield great plenty of ſeed from this plant, and any rich mellow piece of ground, that is not too much expoſed, will yield a great return with this crop. But excluſive of theſe natural ſoils, if the farmer has at any time a new broken up piece of ground that is too rank for wheat, he ſhould ſow cole-ſeed, for the ground will be after it in an excellent condition for the wheat, and the crop will be very advantageous.

It will be much better for the farmer to get his ſeed from abroad, as that will always ſucceed better than our own; and he ſhould be careful to chuſe the largeſt, heavieſt, and brighteſt that he can.

He ſhould begin to ſow the ſeed about the middle of July. The ground muſt be made fine, and they muſt be harrowed in, and rolled down with a heavy roller. In about eleven months from the ſowing, that is, towards the end of June, the crop will be fit to cut. A ſickle is the uſual inſtrument for this purpoſe; and a great deal of care is required in thoſe who execute it; for unleſs the ſeed be very carefully managed, it will be apt to ſhed.

After the plants are cut they muſt be laid gently on the ground, and muſt not be ſtirred till they are dry, which will be in a very ſhort time; and a great deal of the ſeed that was green when they were cut will ripen as they lie upon the ground. When the upper pods are dry, and the ſeeds hard, the whole is ſufficiently dried; the beſt way then is to thraſh it in the field, for a great part of the ſeed would be loſt by loading, carrying, and unloading again at the barn.

The beſt method of doing this is to ſpread out a large ſheet in ſome level part of the ground, and to lay upon it ſuch part of the crop as is neareſt, and thraſh it there. After this the haulm may be taken off, and the ſheet moved a little, and ſo on till it has been carried through the whole field, emptying it as occaſion may require.

This plant is ſo excellent for ſheep, that many judicious farmers have ſown it conſtantly for that uſe alone, leaving no vent for the ſeed. The leaves are more numerous than in the turnip; and they are alſo better taſted and more nouriſhing.

If the farmer have this uſe of the plant principally in his eye, it is certainly beſt to ſow it in the common method; but when the ſeed is the great point in view it ſhould be drilled in double rows, at a foot diſtance, with intervals for hand hoeing.

In many parts of England they make an oil from the ſeeds of a plant, raiſed for that and other purpoſes, which they call rape-oil; the ſeed they alſo call rape-ſeed; and the plant, the rape, or cole, or the cole-ſeed plant.

The ſeeds of the turnips, or cabbage, yield the ſame kind of ſoil; but the rape, or cole plant is greatly preferred; becauſe without ſpending itſelf in root and leaves, it runs up to a great quantity of ſeed; as alſo beauſe it is hardier than the others, is ſubject to fewer accidents, and requires leſs culture.

CHAP. XXI.

Of Lentills.

THOUGH this plant is not only the leaſt of all the pulſe kinds as well as leſs profitable, yet there are caſes in which it will be very uſeful. They ſerve to mellow and improve land, and are uſed as food for cattle, particularly hogs, who are very fond of it; and it anſwers the purpoſe of feeding up, and hardening the fat better than any other food whatever.

There is but one direction neceſſary in the choice of ground for this plant, which is, to allow it only ſuch as is very poor. It will thrive beſt on theſe lomes; and even on ſand, gravel, or chalk, will not only improve the ground, but yield a tolerable produce.

In chuſing of the ſeed you ſhould be careful that it be freſh and ſound; for few of them will grow when they have ſuffered by damps, as they generally do in long keeping; and thoſe which do grow will afford but poor and weak plants. The marks of its being good is, that it be ſound, heavy, bright on the ſurface, and tough; dry, and free from any bad ſmell.

The ſeed being thus choſen, the farmer may raiſe it various ways according to the circumſtances of his land; for it may be ſown either alone, or with the Spring corn: or it may be raiſed either in the promiſcuous way, or by the drill huſbandry. When it is ſown to cover the ground, and to be eaten or mowed for hay, or freſh fodder, the promiſcuous way of ſowing is beſt; and as the plant is ſmall, and does not cover well, a great allowance of ſeed ſhould be made. Four buſhels to an acre will raiſe a larger quantity of fodder than any

other

her proportion; and the roots are ſo ſlight, that hey rob the ground of very little, while they mellow it conſiderably, though ſmall, by this thick growth.

If the farmer is inclined to the ſeed, and does not chuſe to trouble himſelf with the horſe-hoeing huſbandry for ſo trifling an article, he muſt ſow lentills with his oats in Spring. In this caſe a buſhel and a half will be ſufficient for an acre. So many of the plants as are raiſed by this ſowing will rather improve than diminiſh the oat crops; for the little they take of the nouriſhment by their ſlight roots, they repay ten-fold by ſhading and mellowing the ſoil about the oat roots.

There is very little trouble and expence in getting a quantity of lentill ſeed this way; for the two crops grow together without any detriment to each other; and when the oat is ripe, the other is alſo ready for cutting. One reaping ſerves; as does alſo one drying, and they may be thraſhed together. After this the two ſeeds may be ſeparated only by throwing; for the oat being lighteſt will fly fartheſt; and the lentills will all drop by the way, and may be ſwept together.

When they are full grown, and none began to ſhed, they muſt be cut. A hook is the beſt inſtrument for that purpoſe. They ſhould be thrown up in ſmall heaps lightly as they are cut, and the wind will dry them ſufficiently for conveyance. The ſeed is then to be ſpread thin a few days, and is to lie to harden; and after this it is fit to be put up for uſe, either for feeding the hogs for ſale, or for exchange.

Thoſe lentills which are ſown for fodder ſhould be principally dried into hay; for the horſes and oxen are as fond of them in this way as any other; and they are not ſubject to be diſordered by eating them, in ever ſo large a quantity dry.

The

The different ſervice for which this hay is intended, occaſions ſome difference alſo as to the time of cutting them. The oxen and cows reliſh the hay beſt, when it has been made of the ſtalk of full growth, but with the pods not yet gone to ſeed; but the lentill, when the ſeed is near ripe, makes the moſt nouriſhing hay for horſes; and they are as fond of it this way as any other. It muſt not ſtand till the ſeed is hardened, becauſe then the lower leaves will be decayed and even the bottom part of the ſtalk be of little value; but while all is good, and the ſeeds are well grown, is the time for cutting it for this ſervice.

When the lentills are cut for oxen, they will ſhoot very well from the root, and then a crop will feed ſheep, which enrich the ground while they eat it: but this is not the caſe when the full grown hay is cut for horſes; nor ſhould any ſmall crop be then expected as the lentill has ſufficiently diſcharged its office, and prepared the ground for a new crop.

CHAP. XXII.

Of Woad.

THIS is a robuſt plant, of a yard high, with great blue green leaves, and little flowers followed by ſmall pods of ſeed; and is univerſally known to be of great uſe in dying. It is at preſent raiſed but in a few parts of England, and is very advantageous to the farmer: but where there is a proper ſoil it may be brought into many other places with equal profit. It will, with good management, yield four crops in a year, and all of conſiderable value.

This plant requires the ſame ſoil that cole-ſeed does; it muſt be rich, deep and dry; drained for land, dry meadow ground, or any earth of the like kind, in a ſituation clear from wet while the crop is growing, will anſwer the purpoſe. A good deep loamy ſoil will alſo ſuit it very well: it may be raiſed even on ſandy ſoils, though not with equal advantage.

Before the ſeed is ſown the ground muſt be plowed up deep, and all the lumps broken by harrowing and rolling; and laſtly, the whole ſurface muſt be laid ſmooth and even. The ſeed ſhould be heavy, hard and clean, gloſſy on the ſurface, and free from any ill ſmell Five quarts of it are to be allowed to the acre, and the farmer ſhould buy at the rate of a pint an acre more, to have it ready to make up deficiencies, where the woad has failed, or has been deſtroyed in its firſt growth.

If the farmer chuſe the common method of huſbandry, he muſt ſow the ſeed very even, and harrow it in. If the horſe-hoeing method be followed, the ſeed ſhould be drilled in double rows, at ten inches diſtance; and there muſt be ſuch intervals left, as will give room for the horſe hoe to work conveniently. It muſt be ſown in the latter end of Auguſt; and the new ſeed of the ſame year that is juſt ripe, and hardened, ſhould always be preferred.

When the plants are two inches out of the ground the farmer ſhould examine where there is any deficiency, and ſow ſome of the ſeed there which he preſerved for that purpoſe. Three weeks after which the hoers muſt be ſet in to cut up what weeds are riſen, and to thin the plants where they ſtand too cloſe; they ſhould be left at about a foot from each other. After this they are to remain all Winter; and if they are ſown in the common way it is all that can be done for them.

In Spring, when the leaves are taking their firſt ſhoot, the intervals muſt be well broke up; for this will occaſion the leaves to come forward, and give them full nouriſhment for the whole period of its growth, which is to be only till the leaves are got fully to their ſize. When that is obtained, they are to be immediately gathered, for they begin to fade ſoon after. The exact time cannot be determined, for it depends on the ſeaſon; but the farmer may always know, as the leaves will ſhew themſelves when they are ready for gathering.

When the leaves are grown to their full ſize, and are firm to the touch, juicy, and of a good green, they are ripe for cutting, which muſt be immediately done, and the ground cleared for the next crop. As ſoon as the freſh gathering is off, the intervals muſt be very thoroughly horſe-hoed, and there will, in a few days, be a new appearance of leaves, which will make the ſame ſwift progreſs to their perfection. They are to be gathered as ſoon as ripe, in the ſame manner, and the ground plowed up between them, to give new vigour for the next, and thus throughout the whole Summer.

The ſeed of the ſame field muſt never be ſown again, but an exchange made with ſome farmer at a diſtance. A few of the roots muſt be left from time to time, in the warmeſt and drieſt part of the field, for ſeed; and thus the whole management for the preſent and ſucceeding years will go on eaſily together.

CHAP. XXIII.

Of Flax.

THERE are different kinds of ſoil on which this plant will grow; but the moſt univerſal is a fine black mould enriched with rotten dung: this is the ſort of land on which they raiſe it about the edges of the fens in Lincolnſhire, and it always yields a ſtrong well bodied, and tolerably fine flax.

Flax will not ſucceed ſo well in open fields as in incloſures, for it is ſubject to accidents from cold winds, hail, and droughts; againſt which the ſhelter of incloſures is ſome defence. The beſt ſituation is on flat ground, becauſe ſuch is leſs expoſed, and is naturally richer and moiſter than what lies high. The black mould ſoil ſhould always be in ſuch a ſituation; but the tough lome may lie on a ſmall aſcent, becauſe it will always retain moiſture, and keep the roots firm: therefore if the farmer has a rich low field of ſix or eight acres, ſheltered from the North-Eaſt, and in good condition, he cannot do better than raiſe flax upon it. This ſhould be the firſt buſineſs; afterwards he may ſow it on lomes in ſmaller riſing incloſures for ſeed.

When the ground is choſen, the next thing muſt be the preparing it for the ſeed. If barley has been the laſt crop, nothing can be better, becauſe flax requires the land to be in very fine tilth; and the preparation for the wheat, which has naturally preceded the barley, and that for the barley itſelf, have reduced it to this fine condition. Manure ſhould be added, and the land again well prepared for the flax ſeed. The dung that is uſed muſt be very old and well rotted, and there ſhould be mixed with it equal quantities of pure river-mud. Marle and lime are both very excellent manure for this ſeed, as they not only enrich it for a continuance of time, but prevent the ground being ſubject to weeds.

The firſt crop of flax ſhould be raiſed from foreign ſeeds, the beſt of which is that from the province of Zealand, and is raiſed on ſtiff clayey ſoils. It muſt be large, heavy, thick, and very ſmooth.

In ſowing the ſeed, if the farmer chuſes the old method by broad-caſt, he muſt take care that the ground be in very good condition. When the land is plowed up for Winter, it ſhould be thrown up in high ſharp ridges, to prevent the rain from ſoaking into it; and then, in Spring, it muſt be laid as flat as poſſible, and perfectly prepared by the beginning of April, which is the time of ſowing; or if the Spring ſhould be particularly fine, it may be done in the latter end of March.

The quantity of ſeed muſt be three buſhels to the acre, and great care muſt be taken to ſpread it even. The beſt way is to go twice over the land, ſtrewing the ſeed with the right hand going one way, and with the left in coming back; the ground muſt be clean and level for this, and then a good and careful harrowing will cover it: the beſt way is to uſe two fine harrows, joined together, and once going over the ground with theſe, will be quite ſufficient.

When the flax is three inches high, it muſt be carefully weeded; for the crop will come to little if it be not kept clean. Great care muſt be taken in doing of this, becauſe if the flax be trodden down, it ſeldom recovers.

As ſoon as the flax is ripe, it muſt be pulled, otherwiſe it will be greatly damaged. Thoſe who intend to ſave ſeed from their ground muſt mark out a particular part of the crop for that purpoſe; for if the whole ſhould ſtand till the ſeed be ripe, it will loſe the greateſt part of its value.

To know the exact time of pulling flax, the farmer muſt watch the heads: when the ſeed fill, they grow heavy, and the ſun ſoon makes them brown; their weight bends down the tender twigs on which they ſtand; and, as ſoon as this begins to happen, the flax ſhould be gathered. When they drop ever ſo little, and begin to change colour, the ſtalk is full ripe; after this few juices are ſucked up, and the thread withers.

If the crop be gathered before this change begins, the thread will be white, but weak; and after it firſt appears, every hour is a loſs. The mark of the true time is plain enough, and the farmer muſt be careful not to miſs the opportunity of uſing it.

After the crop is gathered, great care muſt be taken that it be regularly dried; for if it be too long damp, the thread will be rotten; and if it be dried too haſtily, it will be harſh.

When it is properly dried, it muſt be carried in, and if not ſold in this condition, it muſt be laid up under cover till the farmer has time to work it, as far as he intends, but the ſooner this is done the better.

CHAP. XXIV.

Of Hemp.

THE firſt conſideration in cultivating this plant muſt be the quality of the ſoil, which ſhould be a dry, light, and deep mould. The black earth of the edges of the fens, where it lies tolerable dry, will ſerve this purpoſe extremely well. And the ſituation ſhould be a ſmall incloſure that lies low; for hemp, though very large above the ground, roots but ſlightly; and in an expoſed ſituation, would be liable to many accidents. The beſt ſoil will not bear hemp to any advantage, if it lies wet, as is the caſe in many rich meadows, which have therefore entirely failed.

After the farmer has choſen the proper ſoil and ſituation, the next care is to get good ſeed, which, though not very difficult, yet muſt be punctually regarded. Hemp ſeed is ſoon damaged by keeping, and it ſhews the miſchief by being duſty: after the firſt year alſo, the ſhell grows weak, and the ſeed may be eaſily broken. The farmer ſhould always buy the ſeed of the laſt year: he is, therefore, for theſe reaſons, to judge of it by its cleanneſs, brightneſs and firmneſs. It ſhould be perfectly clean and gloſſy, and, to try it farther, he ſhould rub it a little between his hands: if it bears this without breaking, it is new, and well prepared.

Three buſhels of ſeed muſt be allowed to the acre; and when it is ſown, the land muſt be deep and well plowed. It muſt lie in ridges all Winter; in Spring it muſt be plowed again, and then harrowed; after which it ſhould be rolled with a heavy roller, and then harrowed again. This laſt operation muſt be very carefully performed, and it will fit the ground for the ſeed.

If the ſeaſon be favourable, the beſt time for ſowing hemp is the beginning of April: any time before the 15th will be very ſafe; for this, though a large plant, is a quick grower.

The ſeed is to be ſown by hand, going only once over the ground, and ſpreading it carefully and even. This done, the farmer muſt ſee the ground properly harrowed to cover it: and if ſhowers fall as ſoon as this is done, it will greatly advance the growth of the plant. Great care ſhould be taken to defend the ground from ſmall birds, for they are great devourers of hemp-ſeed.

In whatever way hemp is raiſed, whether by the common method, the horſe-hoeing, or the drill, the management of it when ripe is to be the ſame. The male hemp produces a kind of duſty flowers, and is ſmalleſt in its growth; the female produces the feeds, and is larger. The male when it has flowered, begins to decay, and that is the time of gathering it. The leaves firſt droop, and afterwards grow yellow: the ſtalk is then in perfection, and theſe plants muſt all be gathered. They are to be pulled up by the roots in the ſame manner as flax, and this gives a new dreſſing to the ground, breaking the ſoil and clearing the way for the roots of the female hemp to ſpread with all poſſible freedom.

About Lammas part of the crop will be ripe; but the pullers muſt be cautioned not to damage the female, becauſe that is by far the moſt valuable part of the crop.

The male hemp being gathered, the female is to ſtand till the beginning of October. It is then to be pulled in the ſame manner as the other, and made up into large bundles. The ſtalks in both kinds are to be cured by a ſlow, and regular drying; and this is to be done by ſetting them up in thoſe bundles in the field.

When the male hemp is dry, there requires no farther trouble about it; it is fit for market, or for working at home: but the female has alſo the ſeed, which is a valuable article, and this is to be thraſhed out when the plants are dry enough.

As the hanging or fading of the leaves is the mark of the male hemp being fit to gather, ſo the female is to be pulled when the ſeed is ripe; the ſtalk always is in the right condition at the time when this is full grown, and moderately hardened; therefore, when the ſeed begins to fall, the farmer is to watch his crop, and when he finds the greateſt part of it grown firm, he is to order the hemp to be pulled.

If the farmer chuſes to work the hemp himſelf, it is to be done juſt in the ſame manner as flax, by watering, braking, and carding; and he thus brings it to the condition of the heckled flax, in which ſtate there is always a demand for it; but it will be moſt to his advantage to ſell it as ſoon as dried, and return to his proper employment.

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